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Water Resources Data for Colorado, Water Year 1980. Volume 1. Missouri River Basin, Arkansas River Basin, and Rio Grande Basin

(U.S.) Geological Survey
Lakewood, CO

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U.S. Department of Commerce
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DEPARTMENT OF THE INTERIOR
March 3, 1849

1876

Water Resources Data for Colorado

Volume 1. Missouri River Basin,
Arkansas River Basin,
and Rio Grande Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CO-80-1

WATER YEAR 1980

Prepared in cooperation with the State of Colorado
and with other agencies

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U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA 22161

CALENDAR FOR WATER YEAR 1980

1979

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and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

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For information on the water program in Colorado write to:

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Denver Federal Center
Lakewood, CO 80225

1981

PREFACE

This report was prepared by the U.S. Geological Survey in cooperation with the State of Colorado and other agencies by personnel of the Colorado District of the Water Resources Division under the supervision of J. F. Blakey, District Chief, and Alfred Clebsch, Jr., Regional Hydrologist, Central Region.

This report is one of a series issued State by State under the direction of Philip Cohen, Chief Hydrologist, Robert J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for Colorado are in three volumes as follows:

Volume 1. Missouri River, Arkansas River, and Rio Grande basins in Colorado,
Volume 2. Colorado River basin in Colorado, above the Dolores River, and
Volume 3. Dolores River, Green River, and San Juan River basins in Colorado.

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16. Abstracts

Water-resources data for Colorado for the 1980 water year consists of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs, and water levels and water quality of wells and springs. This report (Volumes 1, 2, and 3) contains discharge records for about 460 gaging stations, stage and contents of 22 lakes and reservoirs, 4 partial-record low-flow stations, 30 crest-stage partial-record stations, and 50 miscellaneous sites; water quality for 163 gaging stations and 300 miscellaneous sites; and water levels for 55 observation wells. A few pertinent stations in bordering States also are included in this report. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of J. F. Blakey, district chief. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Colorado.

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CONTENTS

Page

Preface III
List of gaging stations, in downstream order, for which records are published VII
List of observation wells, by county, for which records are published XIII
Introduction. 1
Cooperation 6
Hydrologic conditions 7
Definition of terms 7
Downstream order and station number 18
Special networks and programs 19
Explanation of stage and water-discharge records. 19
  Collection and computation of data. 19
  Accuracy of field data and computed results 23
  Other data available. 24
  Records of discharge collected by agencies other than the Geological Survey 24
Explanation of water-quality records. 24
  Collection and examination of data. 24
  Water analysis. 25
  Water temperatures. 26
  Solutes 27
  Sediment. 27
  Water-supply papers 28
Explanation of ground-water-level records 29
  Collection of data. 29
  Publications. 31
Selected references 32
Publications on techniques of water-resources investigations. 35
Gaging-station records. 37
  Transbasin diversions 182
    Transbasin diversions from North Platte River basin to Cache la Poudre River basin in Colorado. 182
  Transmountain diversions. 455
    Transmountain diversions from Colorado River basin in Colorado. . . 455
Discharge at partial-record stations and miscellaneous sites. 458
  Crest-stage partial-record stations 458
  Discharge measurements at miscellaneous sites 461
Streamflow, temperature, and specific-conductance measurements in South Park, Park County 462

CONTENTS

Page

Analysis of samples collected at miscellaneous sites. 466
Previously unpublished analyses of samples collected at miscellaneous sites 471
Revised 1979 water-year water-quality data. 497
Specific-conductance and temperature data at selected gaging-stations . 502
Temperature data at selected sites. 513
Ground-water levels 525
Index 533

ILLUSTRATIONS

Page

Figures 1-3. Map showing:
  1. Location of lake- and streamflow-gaging stations and water-quality stations in Colorado 3
  2. Location of crest-stage partial-record stations in Colorado 4
  3. Location of observation wells in Colorado. 5
4. System for numbering wells and miscellaneous sites (latitude and longitude) 29

TABLES

Page

Table 1. Factors for conversion of chemical constituents in grams of micrograms per liter to milliequivalents per liter. 11
2. Factors for conversion of sediment concentration in milligrams per liter to parts per million. 12
3. Degrees Celsius (°C) to degrees Fahrenheit (°F) 26
4. Water-supply paper numbers and parts, water years 1941-71 . . 31

[Letter after station name designates type and frequency of published data. Daily tables: (D) discharge, (C) specific conductance, (S) sediment, (T) temperature, (e) elevation or contents, (O) dissolved oxygen, (P) pH.

Partial tables: (c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature]

MISSOURI RIVER BASIN

Missouri River:

PLATTE RIVER BASIN

North Platte River:

Grizzly Creek near Spicer (cst) . . . 37
Buffalo Creek near Hebron (Dcst) . . . 39
Grizzly Creek near Hebron (Dcst) . . . 42
Little Grizzly Creek above Coalmont (cst) . . . 45
Little Grizzly Creek above Hebron (Dcst) . . . 47
Michigan River near Cameron Pass (D) . . . 50
North Fork Michigan River near Gould (D) . . . 51
Canadian River near Lindland (DcCTS) . . . 52
Williams Draw near Walden (Dct) . . . 59
Canadian River near Brownlee (DcCTS) . . . 62
North Platte River near Northgate (Dct) . . . 68
Laramie River near Glendevey (D) . . . 72

South Platte River:

Middle Fork South Platte River above Fairplay (D) . . . 73
Middle Fork South Platte River near Hartsel (D) . . . 74
South Fork South Platte River above Fairplay (D) . . . 75
Fourmile Creek near Fairplay (D) . . . 76
South Platte River above Elevenmile Canyon Reservoir, near Hartsel (D) . . . 77
South Platte River near Lake George (D) . . . 78
Tarryall Creek at upper station, near Como (D) . . . 79
Michigan Creek above Jefferson (D) . . . 80
Jefferson Creek near Jefferson (D) . . . 81
Tarryall Creek near Jefferson (Dtcmb) . . . 82
Goose Creek above Cheesman Lake (D) . . . 89
South Platte River below Cheesman Lake (D) . . . 90
North Fork South Platte River below Geneva Creek, at Grant (D) . . . 91
North Fork South Platte River at South Platte (D) . . . 92
South Platte River at South Platte (D) . . . 93
South Platte River at Waterton (Dct) . . . 94
Plum Creek near Louviers (D) . . . 96
Chatfield Lake near Littleton (ect) . . . 97
South Platte River at Littleton (DcmbsT) . . . 100
Bear Creek at Morrison (Dct) . . . 108
Bear Creek below Bear Creek Lake at Lakewood (ct) . . . 110
Bear Creek at mouth, at Sheridan (D) . . . 111

VIII GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Page

Missouri River--Continued
PLATTE RIVER BASIN--Continued
North Platte River--Continued
South Platte River--Continued

Cherry Creek near Franktown (D) . . . 112
Cherry Creek Lake near Denver (ect) . . . 113
Cherry Creek below Cherry Creek Lake (D) . . . 116
Cherry Creek at Denver (D) . . . 117
South Platte River at Denver (D) . . . 118
South Platte River at 50th Avenue at Denver (D) . . . 119
Clear Creek near Lawson (D) . . . 120
Clear Creek at Golden (D) . . . 121
Clear Creek at mouth, near Derby (D) . . . 122
Grange Hall Creek at Northglenn (D) . . . 123
South Platte River at Henderson (D) . . . 124
South St. Vrain Creek above Lyons (D) . . . 125
St. Vrain Creek at Lyons (Dtcm) . . . 126
Left Hand Creek near Boulder (Dc) . . . 129
St. Vrain Creek below Longmont (Dctm) . . . 132
Middle Boulder Creek (head of Boulder Creek) at Nederland (D) . . . 135
Boulder Creek near Orodell (D) . . . 136
South Boulder Creek at Pinecliffe (D) . . . 137
South Boulder Creek near Eldorado Springs (D) . . . 138
Coal Creek near Plainview (Dtc) . . . 139
Boulder Creek at mouth near Longmont (Dctm) . . . 142
St. Vrain Creek at mouth, near Platteville (Dtc) . . . 145
Big Thompson River at Estes Park (D) . . . 148
Olympus Tunnel at Lake Estes (ctmb) . . . 149
Big Thompson River near Estes Park (D) . . . 152
Big Thompson River above Dille Tunnel, near Drake (cm) . . . 153
Horsetooth Reservoir near Fort Collins (etcmb) . . . 154
Big Thompson River at mouth of canyon, near Drake (D) . . . 158
Big Thompson River above Loveland (ctm) . . . 159
Big Thompson River at Loveland (Dtcm) . . . 163
Big Thompson River below Loveland (ctm) . . . 169
Carter Lake near Berthoud (etcmb) . . . 173
Big Thompson River at mouth, near La Salle (Dtc) . . . 177
Joe Wright Creek above Joe Wright Reservoir (D) . . . 180
Joe Wright Creek below Joe Wright Reservoir (D) . . . 181

Cache la Poudre River:

Transbasin diversions from North Platte River basin to Cache la Poudre River basin . . . 182
Cache la Poudre River near Fort Collins (ct) . . . 183
Cache la Poudre River at mouth of canyon, near Fort Collins (Dtc) . . . 186
Cache la Poudre River at Shields Street at Fort Collins (ct) . . . 189
Cache la Poudre River at Fort Collins (Dct) . . . 191
Cache la Poudre River below Fort Collins (ct) . . . 195
Cache la Poudre River above Box Elder Creek near Timnath (Dct) . . . 199
Cache la Poudre River near Greeley (Dct) . . . 204
South Platte River near Kersey (Dct) . . . 207

Page

- Missouri River--Continued
  - PLATTE RIVER BASIN--Continued
  - North Platte River--Continued

    - South Platte River at Masters (D) 210
    - South Platte River near Weldona (Dctb) 211
      - Bijou Creek near Fort Morgan (D) 214
    - South Platte River at Balzac (D) 215
    - South Platte River at Julesburg (DtcmbCT) 216
    - Reservoirs in South Platte River basin (e) 224

  - KANSAS RIVER BASIN
  - Arikaree River (head of Kansas River):
  - Republican River (continuation of Arikaree River):
    - North Fork Republican River:

    - North Fork Republican River at Colorado-Nebraska State line (D) . . . 225

    - South Fork Republican River:

    - Bonny Reservoir near Hale (e) 226
    - South Fork Republican River near Hale (D) 227

LOWER MISSISSIPPI RIVER BASIN

- Mississippi River:
  - ARKANSAS RIVER BASIN:

  - Arkansas River near Leadville (D) 228

    - Lake Fork:

      - Turquoise Lake near Leadville (e) 229
      - Halfmoon Creek near Malta (DtcmsT) 230
  - Arkansas River near Malta (Dct) 235
    - Lake Creek above Twin Lakes Reservoir (D) 237
  - Arkansas River at Granite (D) 238
    - Aurora Homestake pipeline near Lake George (D) 239
    - Clear Creek above Clear Creek Reservoir (D) 240
  - Arkansas River at Buena Vista (D) 241
    - Cottonwood Creek below Hot Springs, near Buena Vista (D) 242
  - Arkansas River near Nathrop (D) 243
  - Arkansas River at Salida (D) 244
  - Arkansas River near Wellsville (D) 245
  - Arkansas River at Parkdale (D) 246

    - Grape Creek:

    - Grape Creek near Westcliffe (D) 247
  - Arkansas River at Canon City (D) 248
    - Fourmile Creek near Canon City (D) 249
  - Arkansas River at Portland (DtcmCTbs) 250
    - Beaver Creek near Portland (D) 257
  - Turkey Creek near Fountain (D) 258
  - Little Turkey Creek near Fountain (D) 260
  - Turkey Creek above Teller Reservoir near Stone City (Dcm) 263
  - Teller Reservoir near Stone City (D) 265
  - Turkey Creek near Stone City (D) 268

Page

Mississippi River--Continued
  ARKANSAS RIVER BASIN--Continued

- Pueblo Reservoir near Pueblo (e) 269
- Arkansas River above Pueblo (D) 270
  - Fountain Creek near Colorado Springs (Dctm) 271

Monument Creek:

- Monument Creek at Palmer Lake (Dctm) 279
  - West Monument Creek at U.S. Air Force Academy (D) 284
  - Kettle Creek near Black Forest (D) 285
- Monument Creek at Pikeview (Dctm) 286
  - Templeton Gap Floodway at Colorado Springs (D) 293
- Monument Creek at Cache la Poudre Street at Colorado Springs (ctm) . 294
- Monument Creek at Bijou Street at Colorado Springs (ctm) 299
- Fountain Creek at Colorado Springs (Dctm) 300
- Fountain Creek below Janitell Road below Colorado Springs (ctm) . . . 307
- Fountain Creek below Circle Drive below Colorado Springs (ctm) 311
- Fountain Creek at Security (D) 312
- Fountain Creek below Widefield (ctm) 313
  - Jimmy Camp Creek at Fountain (D) 314
- Fountain Creek above Little Fountain Creek below Fountain (ctm) . . . 315
- Little Fountain Creek above Keaton Reservoir near Fort Carson (Dctm). 321
- Womack Ditch near Fort Carson (D) 324
- Little Fountain Creek near Fort Carson (D) 325
- Little Fountain Creek near Fountain (D) 327
- Rock Creek above Fort Carson Reservation (D) 328
- Rock Creek near Fort Carson (Dctm) 329
- Rock Creek near Fountain (D) 332
- Fountain Creek near Pinon (Dctm) 333
- Fountain Creek at Pueblo (D) 340

St. Charles River:

- St. Charles River at Vineland (D) 341
- Arkansas River near Avondale (DcmCT) 342
  - Huerfano River at Manzanares Crossing, near Redwing (D) 349
    - Cucharas River at Boyd Ranch, near La Veta (D) 350
  - Huerfano River near Boone (D) 351
- Arkansas River near Nepesta (D) 352
  - Apishapa River at Aguilar (Dct) 354
  - Apishapa River near Fowler (D) 357
- Arkansas River at Catlin Dam, near Fowler (D) 358
  - Timpas Creek at mouth, near Swink (D) 359
  - Crooked Arroyo near Swink (D) 360
- Arkansas River at La Junta (D) 361
  - Horse Creek near Las Animas (D) 362
- Arkansas River at Las Animas (D) 363
  - Middle Fork Purgatoire at Stonewall (DcCT) 364
  - Molino Canyon near Weston (DcS) 368
  - Sarcillo Canyon near Segundo (Dc) 372

Page

Mississippi River--Continued
  ARKANSAS RIVER BASIN--Continued

    Purgatoire River at Madrid (DcCT) 374
      Mulligan Canyon near Boncarbo (D) 378
      Long Canyon Creek near Madrid (D) 379
      Carpios Canyon near Jansen (DC) 380
    Trinidad Lake (e). 382
    Purgatoire River below Trinidad Lake (D) 383
    Purgatoire River at Trinidad (D) 384
      Luning Arroyo near Model (D) 385
      Van Bremer Arroyo near Model (D) 386
    Purgatoire River near Thatcher (D) 387
    Purgatoire River at Ninemile Dam, near Higbee (D). 388
    Purgatoire River near Las Animas (D) 389
  John Martin Reservoir at Caddoa (e). 390
  Arkansas River below John Martin Reservoir (DcCT). 391
  Arkansas River at Lamar (D). 395
    Big Sandy Creek near Lamar (D) 396
    Frontier ditch near Coolidge, KS (D) 397
  Arkansas River near Coolidge, KS (Dcmb). 398

WESTERN GULF OF MEXICO BASINS:
RIO GRANDE BASIN

Rio Grande at Thirtymile Bridge, near Creede (D) 405
  North Clear Creek below Continental Reservoir (D). 406
  Willow Creek at Creede (D) 407
Rio Grande at Wagonwheel Gap (D) 408
  Goose Creek at Wagonwheel Gap (D). 409
  South Fork Rio Grande at South Fork (D). 410
Rio Grande near Del Norte (D). 411
  Pinos Creek near Del Norte (D) 412
Rio Grande near Monte Vista (D). 413
Rio Grande at Alamosa (D). 414

  Closed basin in San Luis Valley:

    San Luis Creek near Poncha Pass (D). 415
    San Luis Creek above Villa Grove 417
    Kerber Creek at Ashley Ranch, near Villa Grove (D) 419
    Noland Gulch Tributary Reservoir Inflow near Villa Grove (D) 420
    Saguache Creek near Saguache (D) 421
    Anaconda Reservoir near Villa Grove (e). 422
    Tracy Pit Reservoir Inflow near Saguache (D) 424
    North Crestone Creek near Crestone (D) 425
    Carnero Creek near La Garita (D) 426
    La Garita Creek near La Garita (D) 427
  Alamosa Creek above Terrace Reservoir (D). 428
  La Jara Creek at Gallegos Ranch, near Capulin (D). 429
  Yellow Warbler Reservoir Inflow near Conejos (D) 430
  Turkey Reservoir Inflow near Conejos (D) 431
  Bobolink Reservoir near Conejos (e). 432

Page

Western Gulf of Mexico--Continued
RIO GRANDE BASIN--Continued

Rio Grande above mouth of Trinchera Creek, near Lasauses (D) 433
Trinchera Creek above Turners Ranch, near Fort Garland (D) 434
Sangre de Cristo Creek near Fort Garland (D) 435
Ute Creek near Fort Garland (D). 436
Trinchera Creek below Smith Reservoir, near Blanca (D) 437

Conejos River:

Platoro Reservoir at Platoro (e) 438
Conejos River below Platoro Reservoir (D). 439
Conejos River near Mogote (D). 440
San Antonio River at Ortiz (D) 441
Los Pinos River near Ortiz (D) 442
San Antonio River at mouth, near Manassa (D) 443
Conejos River near Lasauses (D). 444
Culebra Creek at San Luis (D) 445
Rio Grande near Lobatos (DcmCTsb) 446
Rio Grande at Colorado-New Mexico State line (D). 454
Transmountain Diversions from Colorado River Basin in Colorado. 455

OBSERVATION WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED

Page

Adams County. 525
Alamosa County. 525

Baca County 525
Bent County 525

Elbert County 526
El Paso County. 526

Huerfano County 526

Kiowa County. 526
Kit Carson County 526

Larimer County. 527
Lincoln County. 527
Logan County. 527

Morgan County 527,528

Otero County. 528

Phillips County 528
Prowers County. 529
Pueblo County 529

Sedgwick County 529

Washington County 530
Weld County 530,531

Yuma County 531,532

WATER RESOURCES DATA FOR COLORADO, 1980

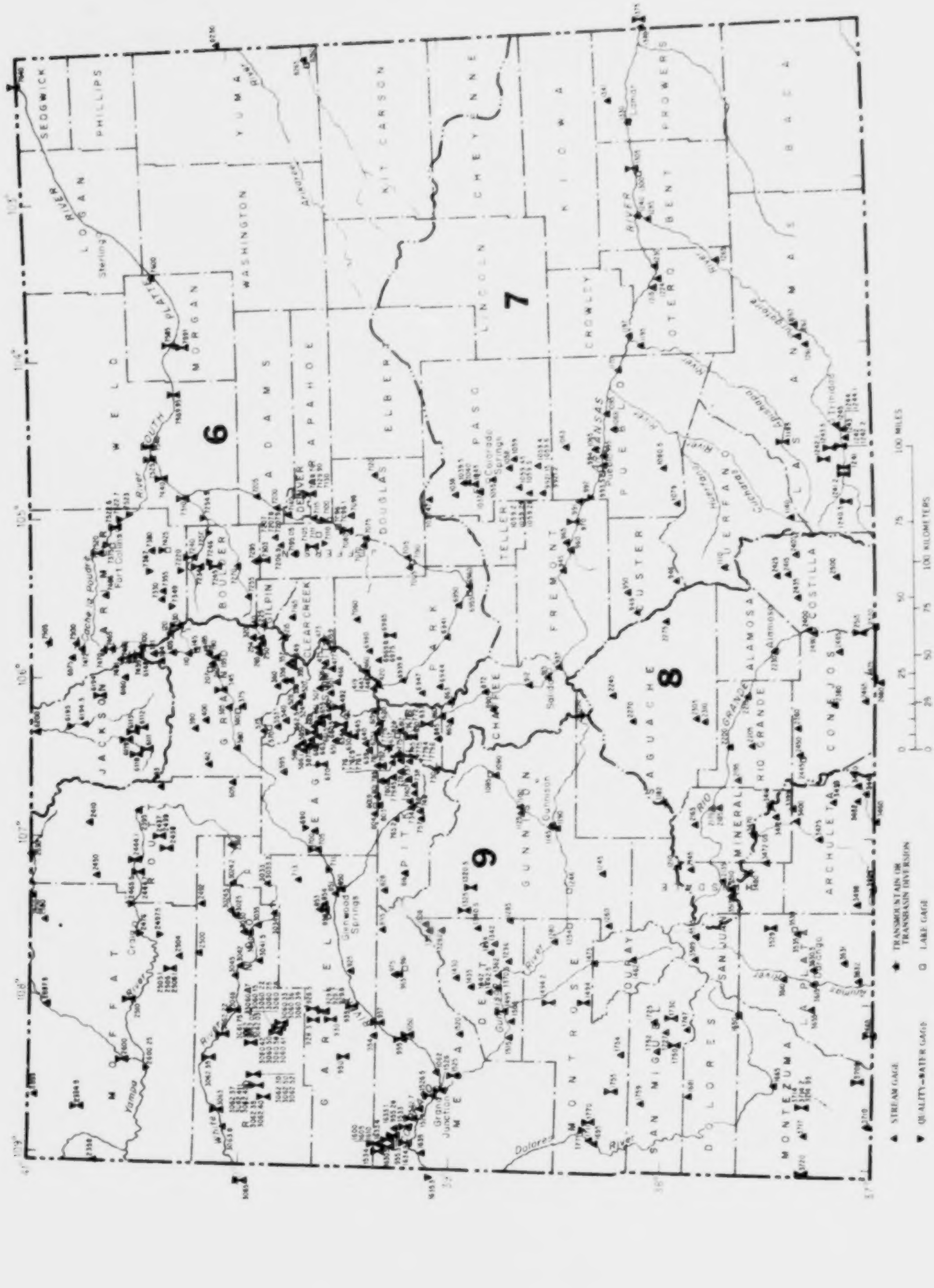
VOLUME 1: MISSOURI RIVER, ARKANSAS RIVER, AND RIO GRANDE BASINS
VOLUME 2: COLORADO RIVER BASIN ABOVE THE DOLORES RIVER
VOLUME 3: DOLORES, GREEN, AND SAN JUAN BASINS

INTRODUCTION

Water-resources data for the 1980 water year for Colorado consists of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of wells and springs. This report (Volumes 1, 2, and 3) contains discharge records for about 460 streamflow-gaging stations, stage and contents of 22 lakes and reservoirs, 4 partial-record low-flow stations, 30 crest-stage partial-record stations, and 50 miscellaneous sites; water quality for 163 streamflow-gaging stations and 300 miscellaneous sites; and water levels for 55 observation wells. Locations of lake- and streamflow-gaging stations and water-quality stations are shown in figure 1, locations of crest-stage partial-record stations are shown in figure 2, and locations of observation wells are shown in figure 3. A few pertinent stations in bordering States also are included in this report. The records were collected and computed by the Colorado District. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Colorado.

Records of discharge and stage of streams, and contents and stage of lakes and reservoirs are published in a series of U.S. Geological Survey Water-Supply Papers entitled, "Surface-water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply paper entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1955 in an annual series of water-supply papers entitled "Water Levels and Artesian Pressures in Wells in the United States," and from 1955 to the present time, in a 5-year series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 Eads Street, Arlington, VA 22202.

Beginning with the 1961 water year, streamflow records and related data have been released by the Geological Survey in annual reports on a State-boundary basis. Beginning with the 1964 water year, water-quality records for surface and ground water have been similarly released in separate annual reports. These reports provided for rapid release of preliminary data shortly after the end of the water year. The final data were then released in the series of water-supply papers mentioned above. Beginning with the 1975 water year, water data will be released on a State-boundary basis in final form and will not be republished in the water-supply paper series. The 1975 and subsequent water year reports will be in a series which will carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report CO-80-1." These reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. For more information on available publications, see the section entitled, "PUBLICATIONS" on subsequent pages.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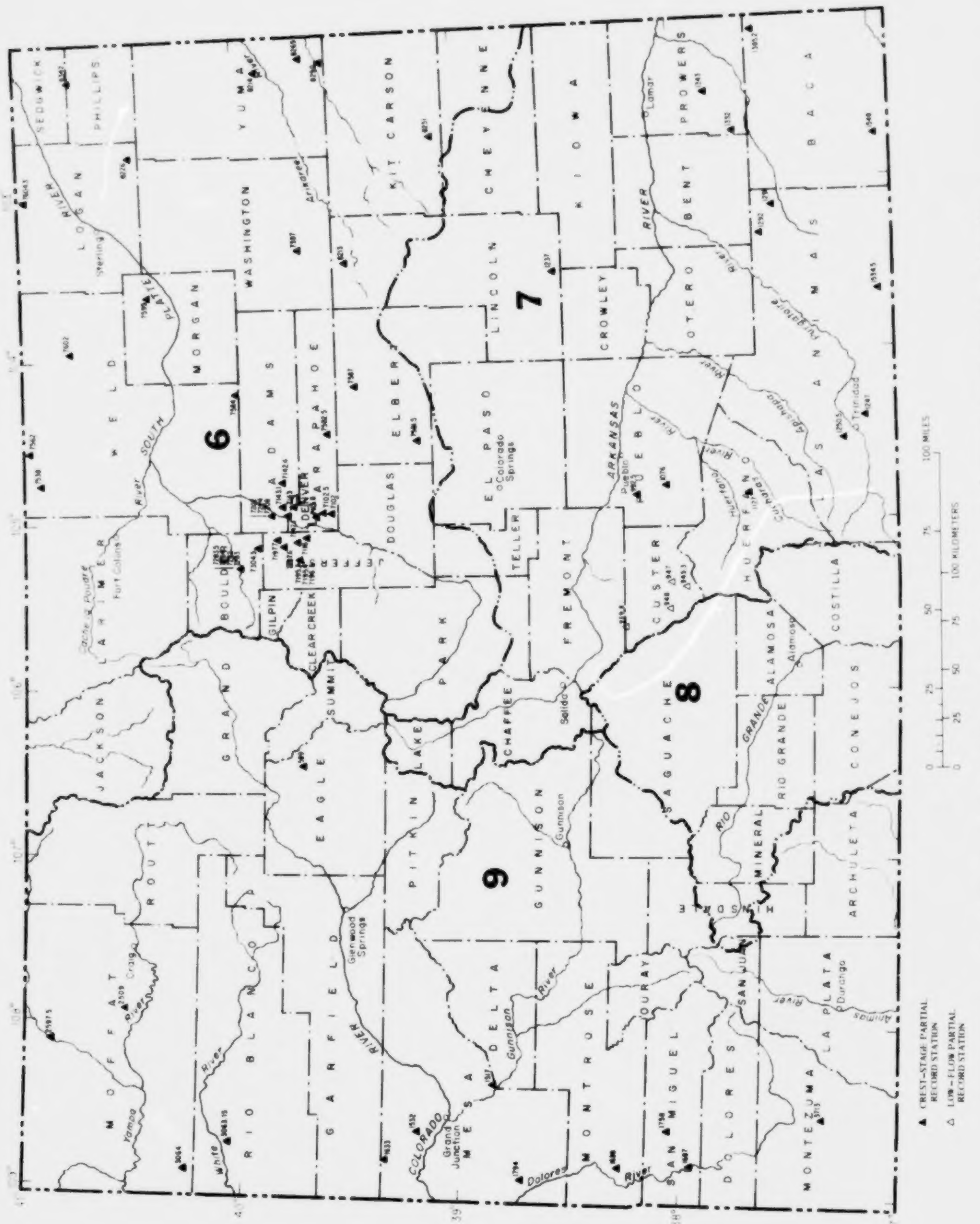
RIO BLANCO
GRAND
BOULDER
GILPIN
CLEAR CREEK
ADAMS
ARAPAHOE
DENVER
DOUGLAS
ELBERT
KIT CARSON
CHEYENNE
LINCOLN
EL PASO
TELLER
PARK
SUMMIT
EAGLE
GARFIELD
MESA
PITKIN
LAKE
CHAFFEE
GUNNISON
DELTA
MONTROSE
OURAY
SAN MIGUEL
DOLORES
SAN JUAN
HINSDALE
MINERAL
SAGUACHE
FREMONT
CUSTER
PUEBLO
CROWLEY
KIOWA
OTERO
BENT
PROWERS
BACA
LAS ANIMAS
HUERFANO
ALAMOSA
COSTILLA
CONEJOS
RIO GRANDE
ARCHULETA
LA PLATA
MONTEZUMA
Sterling
Fort Collins
Colorado Springs
Glenwood Springs
Grand Junction
Gunnison
Salida
Alamosa
Durango
Trinidad
Lamar
SOUTH PLATTE RIVER
Cache la Poudre
ARKANSAS RIVER
RIO GRANDE
Yampa
White
Colorado River
Gunnison River
Dolores River
Animas
San Juan
Huerfano
Purgatoire
102°
103°
104°
105°
106°
107°
108°
109°
41°
40°
39°
38°
37°
▲ STREAM GAGE
▼ QUALITY-WATER GAGE
TRANSMOUNTAIN OR TRANSBASIN DIVERSION
LAKE GAGE
0 25 50 75 100 MILES
0 25 50 75 100 KILOMETERS

Figure 1.—Map showing locations of lake- and stream-gaging stations and water-quality stations in Colorado.



▲ CREST-STAGE PARTIAL RECORD STATION
△ LOW-FLOW PARTIAL RECORD STATION
0 25 50 75 100 MILES
0 25 50 75 100 KILOMETERS
6
7
8
9
MOFFAT
ROUTT
JACKSON
LARIMER
WELD
LOGAN
SEDGWICK
PHILLIPS
MORGAN
WASHINGTON
YUMA
RIO BLANCO
GRAND
BOULDER
GILPIN
CLEAR CREEK
ADAMS
DENVER
ARAPAHOE
JEFFERSON
DOUGLAS
ELBERT
KIT CARSON
CHEYENNE
LINCOLN
KIOWA
GARFIELD
EAGLE
SUMMIT
PARK
TELLER
EL PASO
CROWLEY
PROWERS
BENT
OTERO
PITKIN
LAKE
CHAFFEE
FREMONT
PUEBLO
CUSTER
MESA
DELTA
GUNNISON
SAGUACHE
HUERFANO
LAS ANIMAS
BACA
MONTROSE
OURAY
SAN MIGUEL
HINSDALE
MINERAL
RIO GRANDE
ALAMOSA
COSTILLA
DOLORES
SAN JUAN
MONTEZUMA
LA PLATA
ARCHULETA
CONEJOS
Craig
Sterling
Fort Collins
Glenwood Springs
Grand Junction
Gunnison
Salida
Colorado Springs
Pueblo
Lamar
Trinidad
Alamosa
Durango
Yampa
White River
Cache la Poudre
SOUTH PLATTE RIVER
RIVER
Arikaree
COLORADO RIVER
Gunnison River
Dolores River
ARKANSAS RIVER
Huerfano River
Cucharas
Purgatoire
Apishapa
RIO GRANDE
Animas
River

Figure 2.--Map showing locations of crest-stage partial-record stations in Colorado.

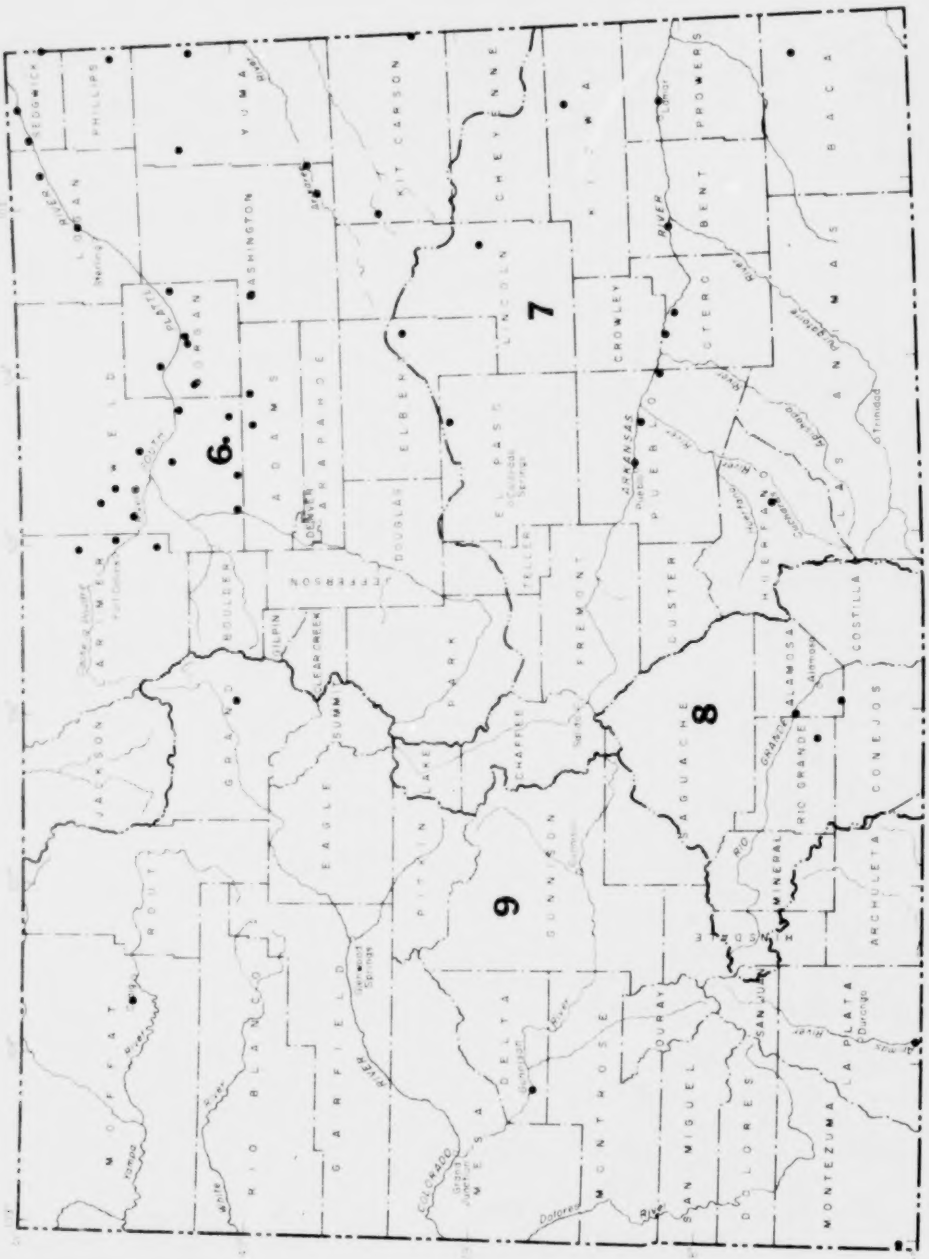

SEDGWICK
PHILLIPS
LOGAN
YUMA
WASHINGTON
KIT CARSON
CHEYENNE
KIOWA
PROWERS
BENT
BACA
LAS ANIMAS
OTERO
CROWLEY
LINCOLN
ELBERT
DOUGLAS
ARAPAHOE
ADAMS
MORGAN
WELD
LARIMER
BOULDER
JEFFERSON
DENVER
GILPIN
CLEAR CREEK
PARK
TELLER
EL PASO
FREMONT
PUEBLO
CUSTER
HUERFANO
COSTILLA
ALAMOSA
CONEJOS
RIO GRANDE
SAGUACHE
MINERAL
ARCHULETA
LA PLATA
MONTEZUMA
DOLORES
SAN MIGUEL
SAN JUAN
OURAY
HINSDALE
MONTROSE
DELTA
MESA
GUNNISON
CHAFFEE
LAKE
PITKIN
EAGLE
SUMMIT
GRAND
JACKSON
ROUTT
MOFFAT
RIO BLANCO
GARFIELD
6
7
8
9
SOUTH PLATTE RIVER
ARKANSAS RIVER
RIO GRANDE
COLORADO RIVER
Dolores River
Sterling
Greeley
Fort Collins
Denver
Colorado Springs
Pueblo
Lamar
Trinidad
Alamosa
Durango
Grand Junction
Glenwood Springs
0 25 50 75 100 MILES
0 25 50 75 100 KILOMETERS

Figure 3.--Map showing locations of observation wells in Colorado.

COOPERATION

The U.S. Geological Survey and organizations of the State of Colorado have had cooperative agreements for the systematic collection of surface-water records since 1895, and for water-quality records since 1941. Organizations that assisted in collecting data for this report through cooperative agreement with the Survey are:

Colorado Division of Water Resources, J. A. Danielson, State Engineer.
Colorado Water Conservation Board, J. W. McDonald, Director.
Colorado Department of Highways, Jack Kinstlinger, Executive Director.
Arkansas River Compact Administration, Frank G. Cooley, Chairman and Federal Representative.
Colorado River Water Conservation District, Roland C. Fischer, Secretary-Engineer.
Metropolitan Denver Sewage Disposal District No. 1, William E. Korbitz, Manager.
Northern Colorado Water Conservation District, E. F. Phipps, Secretary-Manager.
Purgatoire River Water Conservancy District, Clyde Dawn, President.
Southwestern Water Conservation District, Robert H. Tyner, Manager.
Southeastern Colorado Water Conservancy District, C. L. Thomson, General Manager.
St. Vrain and Left Hand Water Conservancy District, James A. Cinea, Executive Director.
City and County of Denver, Board of Water Commissioners, Charles F. Brannan, President.
Eagle County Commissioners, Dale F. Grant, Chairman.
Pitkin County Board of County Commissioners, George Ochs, County Manager.
City of Aspen, Phillip Mahoney, City Manager.
City of Aurora, C. A. Wemlinger, Director of Utilities.
Colorado City Water and Sanitation District, W. T. Hambric, District Administrator.
City of Colorado Springs, Department of Public Utilities, James D. Phillips, Director.
City of Fort Collins, Roger E. Krempel, Director of Utilities.
City of Glenwood Springs, John D. West, Manager.

Financial assistance was also provided by the U.S. Army, Corps of Engineers, U.S. Army; Bureau of Indian Affairs, Bureau of Land Management, Bureau of Mines, Water and Power Resources Service, and the National Park Service, U.S. Department of the Interior; and the U.S. Environmental Protection Agency. Organizations that supplied data are acknowledged in station descriptions.

Some records have been collected and computed by contractors in accordance with U.S. Geological Survey specifications and under Geological Survey quality control.

HYDROLOGIC CONDITIONS

Over most of the State the streamflow was slightly above normal for the entire year. The monthly mean discharges of the Yampa River at Steamboat Springs and Bear Creek at Morrison varied between 110 and 193 percent of normal for the year.

The snowpack varied from 125 percent of normal in the Yampa River and White River basins to 180 percent of normal in the San 'Juan and Dolores River basins. Daily temperatures were only slightly above average during the year.

Ground-water levels continued to decline in the northern High Plains, but remained constant in the alluvial river-channel aquifers.

DEFINITION OF TERMS

Terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting inch-pound units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Bacteria are microscopic unicellular organisms, typically spherical, rod like, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2C° on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which the bottom of a streambed, lake, pond, reservoir, or estuary is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter (mg/L), necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area of volume of habitat.

Ash mass is the mass of amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and those for periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters. It represents a runoff of approximately 0.0372 inch from 1 square mile, or 0.3468 millimeter from 1 square kilometer.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Cubic foot per second (cfs, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second, or 448.8 gallons per minute, or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 µm membrane filter. This may include some very small (colloidal) suspended particles as well as the amount of substance present in true chemical solution. It is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved oxygen (DO) is the dissolved-oxygen content of water in equilibrium with air and is a function of atmospheric pressure and temperature and dissolved-solids concentration of the water. The capacity of water for dissolved-oxygen decreases as dissolved solids or temperature increase or as atmospheric pressure decreases. Dissolved-solids concentration has the least effect on dissolved-oxygen concentration. Photosynthesis and respiration may cause diel variations in dissolved-oxygen concentration in water from some streams.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Hardness of water is the physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter

Ion	Multi-ply by	Ion	Multi-ply by
Aluminum (Al^{+3})*	0.11119	Iodide (I^{-1})	0.00788
Ammonia as N	.07139	Iron (Fe^{+3})*	.05372
Barium (Ba^{+2})	.01456	Lead (Pb^{+2})*	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})*	.14411
Bromide (Br^{-1})	.01251	Magnesium (Mg^{+2})	.08226
Calcium (Ca^{+2})	.04990	Manganese (Mn^{+2})*	.03640
Carbonate (CO_3^{-2})	.03333	Nickel (Ni^{+2})*	.03406
Chloride (Cl^{-1})	.02821	Nitrate as N	.07139
Chromium (Cr^{+6})*	.11539	Nitrite as N	.07139
Cobalt (Co^{+2})*	.03394	Phosphate,ortho as P	.09686
Copper (Cu^{+2})*	.03148	Potassium (K^{+1})	.02557
Cyanide (CN^{-1})	.03844	Sodium (Na^{+1})	.04350
Fluoride (F^{-1})	.05264	Strontium (Sr^{+2})*	.02283
Hydrogen (H^{+1})	.99209	Sulfate (SO_4^{-2})	.02082
Hydroxide (OH^{-1})	.05880	Zinc (ZN^{+2})*	.03060

*Constituents reported in micrograms per liter; multiply by factor and divide results by 1,000.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Partial-record station is a particular site where limited streamflow or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined either by sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Table 2.--Factors for conversion of sediment concentration in milligrams per liter to parts per million*

[All values calculated to three significant figures]

Range of concentration in 1000 mg/L	Divide by	Range of concentration in 1000 mg/L	Divide by	Range of concentration in 1000 mg/L	Divide by	Range of concentration in 1000 mg/L	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	668-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-506	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

*Based on water density of 1.000 g/mL and a specific gravity of sediment of 2.65.

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay............	0.00024 - 0.004	Sedimentation
Silt............	.004 - .062	Sedimentation
Sand............	.062 - 2.0	Sedimentation or sieve
Gravel..........	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Periphyton is the assemblage of microorganisms attached to, and growing upon, solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton is a useful indicator of water quality.

Pesticide network is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where potential contamination could result from the application of the commonly used insecticides and herbicides.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per mL of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per mL of sample.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7 X 10 radioactive disintegrations per second. A picocurie yields 2.22 disintegrations per minute (dpm).

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Radiochemical network is a network of regularly sampled water-quality stations where samples are collected monthly or twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Radioisotopes are isotopic forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus. For example: Ordinary chlorine is a mixture of isotopes having atomic weights 35 and 37, with the natural mixture having atomic weight about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron (Rose and Rose, 1966). There are 275 isotopes of the 81 stable elements in addition to over 800 radioactive isotopes.

Radioisotopes that are determined in this program are natural uranium in µg/L (micrograms per liter), radium as radium-226 in PC/L (pCi/L, picocuries per liter), gross beta radiation as equivalent strontium/yttrium-90 or cesium-137 in PC/L, and gross alpha radiation as micrograms of uranium equivalent per liter (µg/L). Gross alpha and beta radioactivity associated with the fine-grained (silt and clay-sized) sediments in the samples are also determined.

Recoverable from bottom material the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

> Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft (0.09 m) above the bed) expressed as milligrams of dry sediments per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge in cfs times concentration in mg/L times 0.0027.

Suspended-sediment load is that quantity of suspended sediment passing a section in a specified period.

Total sediment discharge or total sediment load is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions with soil and is an index of sodium or alkali hazard to the soil. This ratio should be known especially for water used for irrigating farmland.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks and is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the number and specific chemical types of ions in solution and can be used for approximating the dissolved-solids content in the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Suspended, recoverable the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the water year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Total in bottom material the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total, recoverable the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Water year in the U.S. Geological Survey is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1979, is called the "1980 water year."

Weighted average is used in this report to indicate the discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WRD is an abbreviation for "Water-Data Report" in the summary REVISIONS paragraph to refer to State annual basic-data reports published prior to 1975.

WDR is used as an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph to refer to State annual basic-data reports published after 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

DOWNSTREAM ORDER AND STATION NUMBER

Stations are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of gaging stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station and each partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station.

Gaps are left in the sequential allocation of numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 07083000, which appears just to the left of the station name, includes the 2-digit part number "07" plus the 6-digit downstream order number "083000." In this report the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records in this report are for Part 6 (Missouri River basin), Part 7 (Lower Mississippi River basin), and Part 8 (Western Gulf of Mexico basins). Records for Part 9 (Colorado River Basin) are in Volumes 2 and 3. All records for a drainage basin encompassing more than one State can be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

SPECIAL NETWORKS AND PROGRAMS

Some of the stations for which data are published in this report are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

Irrigation-network stations are water-quality stations located at or near certain streamflow gaging stations west of the main stem of the Mississippi River. Data collected at these stations are used to evaluate the chemical quality of surface waters used for irrigation and the changes resulting from the drainage of irrigated lands. Prior to water year 1966, the data for these stations were published in the annual Water-Supply Paper series, "Quality of Surface Water for Irrigation, Western States."

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are: (1) To depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis, and (2) to detect and assess long-term changes in streamflow and stream quality.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and Computation of Data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at 5-, 15-, 30- or 60-minute intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the U.S. Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by hydrologists and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the current water year is shown on the inside of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are affected by the revisions, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given.

The type of gage currently in use, the datum of the present gage above mean sea level, referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified. National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS."

Information pertaining to the accuracy of the discharge records, to conditions which affect the natural flow of the gaging station, availability of water-quality records, and reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE;" it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance.

The maximum discharge (or contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or minimum contents), and the minimum gage height, if it is significant, are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second (ft^3/s) during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month.

Discharge for the month also may be expressed in acre-feet (line headed "AC-FT"). In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations and at miscellaneous sites follow the information for continuous record sites. Data for partial-record discharge stations are presented in three tables. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements at miscellaneous sites.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" means within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second (ft^3/s) for discharges of less than 1 ft^3/s; to tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. However, because all the effects cannot be measured or evaluated, satisfactory adjustments generally cannot be made. For some stations, available figures of diversions or change in contents of reservoirs are included as supplemental data. Even at those stations where adjustments can be made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Available

Information of a more detailed nature than that published for most of the gaging stations, such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Records of Discharge Collected by Agencies other than the Geological Survey

Records of discharge not published by the Geological Survey were collected at many sites in Colorado during the water year by the following agencies: City of Colorado Springs; Colorado Division of Water Resources; Forest Service, U.S. Department of Agriculture; City and County of Denver, Board of Water Commissioners; National Weather Service, Department of Commerce; and Water and Power Resources Service, U.S. Department of the Interior.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Water samples for analyses usually are collected at or near streamflow-gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data, the period of daily record for parameters that are measured on a daily basis (such as, specific conductance, pH, dissolved oxygen, water temperature, sediment discharge), extremes for the period of daily record, extremes for current year, and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most methods for collecting and analyzing water samples are described in "U.S. Geological Survey Techniques of Water-Resources Investigations," which are listed on page 35.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling, as much as possible, consistent wth available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field determination of carbonate and bicarbonate in the laboratory.

Prior to the 1968 water year, data for chemical constituents and concentrations of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967, the Geological Survey began reporting data for chemical constituents and concentrations of suspended sediment in milligrams per liter (mg/L) and water temperatures in degrees Celsius (°C). In waters with a density of 1.000 grams per milliliter (g/mL), parts per million and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/mL, values in parts per million should be multiplied by the density to convert to milligrams per liter. Temperature reported in degrees Celsius may be converted to degrees Fahrenheit by using table 3.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water Temperatures

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for surface-water stations. For stations where water temperatures are taken manually the water temperatures are taken at about the same time each day. Large streams have a small diel temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges. At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Table 3.--Degrees Celsius (°C) to degrees Fahrenheit (°F)*
(Temperature reported to nearest 0.5°C)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
7.5	45	17.5	63	27.5	81	37.5	99	47.5	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

*°C=5/9(°F-32°) or °F=9/5(°C)+32°.

In October 1968, the Geological Survey began reporting many of the chemical constituents as well as the minor elements in micrograms per liter instead of milligrams per liter. See "Definition of Terms," and table 5 for converting English units to SI units.

The biological information includes qualitative and quantitative analyses of plankton, periphyton, Chlorophyll *a* and *b*, biomass and bottom organisms. Microbiological information includes quantitative identification of selected bacteriological indicator organisms.

Solutes

Most methods for collecting and analyzing water samples to determine the kinds and concentrations of solutes are described by Brown, Skougstad, and Fishman (1970). Analysis of pesticides and organic substances in water are described by Goerlitz and Lamar (1967), Lamar, Goerlitz, and Law (1965), and Goerlitz and Brown (1972). The collection and analysis of aquatic, biological, and microbiological samples are described by Slack and others (1973).

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. A blank in the daily mean concentration column of the suspended-sediment discharge table indicates the value in the sediment discharge column was estimated. A zero value in the sediment-discharge column when there are nonzero values in the mean discharge and mean concentration columns indicates the load is less than 0.005 ton per day.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the streams.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

WATER-SUPPLY PAPERS

The annual series of Water-Supply Papers that give information on quality of surface waters in Colorado are shown in the following table:

Table 4.--Water-Supply Paper numbers and parts, water years 1941-71

Year	Part 6	Part 7	Part 8	Part 9	Irrigation (1951-65)[a]
1941	942	942	942	942	----
1942	950	950	950	950	----
1943	970	970	970	970	----
1944	1022	1022	1022	1022	----
1945	1030	1030	1030	1030	----
1946	1050	1050	1050	1050	----
1947	1102	1102	1102	1102	----
1948	1132	1133	1133	1133	----
1949	1162	1163	1163	1163	----
1950	1187	1188	1188	1189	----
1951	1198	1199	1199	1200	1264
1952	1251	1252	1252	1253	1362
1953	1291	1292	1292	1293	1380
1954	1351	1352	1352	1353	1430
1955	1401	1402	1402	1403	1465
1956	1451	1452	1452	1453	1485
1957	1521	1522	1522	1523	1524
1958	1572	1573	1573	1574	1575
1959	1643	1644	1644	1645	1699
1960	1743	1744	1744	1745	1746
1961	1883	1884	1884	1885	1886
1962	1943	1944	1944	1945	1946
1963	1949	1950	1950	1951	1952
1964	1956	1957	1957	1958	1960
1965	1963	1964	1964	1965	1967
1966	1993	1994	1994	1995	----
1967	2013	2014	2014	2015	----
1968	2095	2096	2097	2098	----
1969	2145	2146	2147	2148	----
1970	2155	2156	2157	2158	----
1971	2165	[b]2166	[b]2167	[b]2168	----

[a] Annual series, "Quality of Surface Waters for Irrigation, Western States."

[b] In preparation.

Information about reports and other data on quality of water in Colorado may be obtained from the district office at the address given on the back of the title page of this report.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Collection of Data

Only ground-water level data from a basic national network of observation wells are published herein. These water-level measurements are intended to provide a record of water-level changes in important aquifers.

The locations of wells are referenced by two systems. One system is based on latitude and longitude, and the second is based on the U.S. Bureau of Land Management system of land subdivision. The latitude and longitude grid system facilitates machine processing of data and plotting of data points.

The latitude and longitude grid system is used to provide the geographic location of each well. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude; N designates north; the next seven digits denote degrees, minutes, and seconds of longitude; and the last digit is a sequential number for wells within a 1-second grid, as shown below in figure 4.

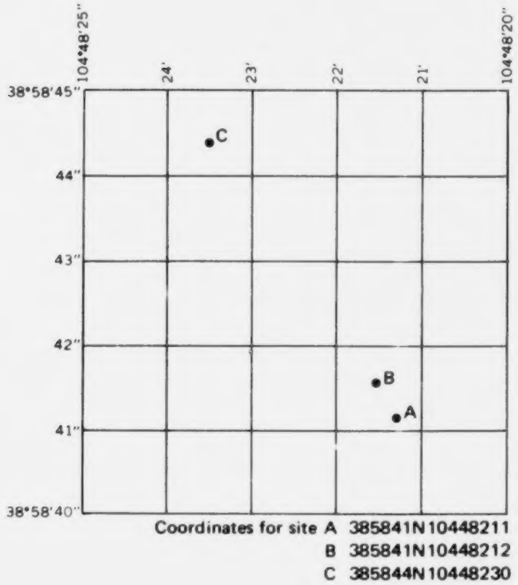

104°48'25"
24'
23'
22'
21'
104°48'20"
38°58'45"
44"
43"
42"
41"
38°58'40"
C
B
A
Coordinates for site A 385841N10448211
B 385841N10448212
C 385844N10448230

Figure 4.--System for numbering wells and miscellaneous sites (latitude and longitude).

The local well number locates a well within a 10-acre (4.0-ha) tract using the U.S. Bureau of Land Management system of land subdivision. The components of the local well number proceed from the largest to the smallest land subdivisions. This is in contrast to the legal description, which proceeds from the smallest to the largest land subdivision. The largest subdivision is the survey. Colorado is governed by three surveys: The Sixth Principal Meridian Survey (S), the New Mexico Survey (N), and the Ute Survey (U). Costilla County was not included in any of the above official surveys. This report follows the convention of the Costilla County Assessor in which the northern part of the county is governed by the Sixth Principal Meridian Survey and the southern part of the county is governed by a local system called the Costilla Survey (C). The first letter of the well location designates the survey.

A survey is subdivided into four quadrants formed by the intersection of the baseline and the principal meridian. The second letter of the well location designates the quadrant: A indicates the northeast quadrant, B the northwest, C the southwest, and D the southeast. A quadrant is subdivided in the north-south direction every 6 mi (10 km) by townships and is subdivided in the east-west direction every 6 mi (10 km) by ranges. The first number of the well location designates the township and the second number designates the range.

The 36-mi^2 (93-km^2) area described by the township and range designation is subdivided into 1-mi^2 (2.59-km^2) areas called sections. The sections are numbered sequentially. The third number of the well location designates the section. The section, which contains 640 acres (259 ha), is subdivided into quarter sections. The 160-acre (64.8-ha) area is designated by the first letter following the section: A indicates the northeast quarter, B the northwest, C the southwest, and D the southeast. The quarter section is subdivided into quarter-quarter sections. The 40-acre (16.2-ha) area is designated in the same manner by the second letter following the section. The quarter-quarter section is subdivided into quarter-quarter-quarter sections. The 10-acre (4.0-ha) area is designated in the same manner by the third letter following the section. If more than one well is located within the 10-acre (4.0-ha) tract, the wells are numbered sequentially in the order in which they were originally inventoried. If this number is necessary, it will follow the three-letter designation.

The local number is provided for continuity with older reports.

Measurements are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well insure that measurements at each well are of consistent accuracy and reliability.

Water-level measurements in this report are given in feet with reference to either mean sea level (msl) or land-surface datum (lsd). Mean sea level is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above mean sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Publications

Publication of ground-water level data for the United States in water-supply papers was begun by the Geological Survey in 1935. From 1935 through 1939, a single water-supply paper covering the entire nation was issued each year (Water-Supply Papers 777, 817, 840, 845, and 886). From 1940 through 1974, separate water-supply papers were issued for six sections of the United States. Water-level data for Colorado are included in the water-supply papers listed below, each report containing one or more calendar years (January through December) of data. Data in this report are for the 12-month water year ending September 30.

Calendar year	WSP no.	Calendar year	WSP no.	Calendar year	WSP no.	Calendar year	WSP no.
1940	910	1945	1027	1950	1169	1955	1408
1941	940	1946	1075	1951	1195	1956-60	1760
1942	948	1947	1100	1952	1225	1961-65	1845
1943	990	1948	1130	1953	1269	1966-70	1980
1944	1020	1949	1160	1954	1325		

Information about reports and other data on ground water in Colorado may be obtained from the district office at the address given on the back of the title page of this report.

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06611100 GRIZZLY CREEK NEAR SPICER, CO

LOCATION.--Lat 40°29'36", long 106°26'57", in NW¼NE¼ sec.14, T.6 N., R.81 W., Jackson County, Hydrologic Unit 10180001, on right bank 0.5 mi (0.8 km) upstream from mouth of Mexican Creek, 1.8 mi (2.9 km) north of Spicer, and 4.7 mi (7.6 km) south of Coalmont.

DRAINAGE AREA.--119 mi² (308 km²).

PERIOD OF RECORD.--
WATER-DISCHARGE RECORDS: October 1976 to September 1979.
WATER-QUALITY RECORDS: October 1976 to September 1980 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
15...	1315	9.8	150	7.0	7.5	8.5	71	5	20	5.2
DEC										
18...	1550	11	180	--	.0	9.8	77	0	22	5.4
MAY										
21...	0900	370	130	7.8	7.0	9.2	58	8	17	3.8

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
15...	7.2	.4	2.5	66	13	.9	.2	27	116	.16
DEC										
18...	7.1	.4	1.8	84	11	1.3	.2	26	126	.17
MAY										
21...	3.9	.2	1.3	50	12	.7	.2	10	80.0	.11

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
15...	3.08	.01	--	.14	20	860	450	40	40
DEC									
18...	3.74	.09	--	.03	20	540	140	30	40
MAY									
21...	79.9	.07	.15	.05	70	3200	140	80	20

06611100 GRIZZLY CREEK NEAR SPICER, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT 15...	1315	120	20	0	1	0	<1	--
MAY 21...	0900	1800	10	1	0	1	1	4

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)
OCT 15...	--	1	0	0	0	.0	.0	2	<10
MAY 21...	4	9	0	8	1	.1	.0	0	<10

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT 15...	0	0	0	0	0	10	--	6.0
MAY 21...	13	0	1	1	40	<3	12	12

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT 15...	1315	9.8	3	.09
MAY 21...	0900	370	134	134

06611200 BUFFALO CREEK NEAR HEBRON, CO

LOCATION.--Lat 40°31'23", long 106°22'07", in NW¼NW¼ sec.3, T.6 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on left bank 650 ft (198 m) below mouth of Coyote Creek, 5.4 mi (8.7 km) southeast of Hebron, and 6.0 mi (9.7 km) northeast of Spicer.

DRAINAGE AREA.--56.3 mi^2 (145.8 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to September 1980 (discontinued).

REVISED RECORDS.--WDR CO-78-1: 1977.

GAGE.--Water-stage recorder. Altitude of gage is 8,190 ft (2,496 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180 ft^3/s (5.10 m^3/s) Apr. 21, 1980, gage height, 4.22 ft (1.286 m); maximum gage height, 5.28 ft (1.609 m) at 1000 Apr. 18, 1979 (backwater from ice); minimum daily discharge, 0.04 ft^3/s (0.001 m^3/s) Apr. 30, May 1, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 180 ft^3/s (5.10 m^3/s) at 2000 Apr. 21, gage height, 4.22 ft (1.286 m); maximum gage height, 4.56 ft (1.390 m) at 1200 Apr. 20 (backwater frm ice); minimum daily discharge, 0.66 ft^3/s (0.019 m^3/s) Aug. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.73	5.4	4.0	4.0	4.0	4.5	4.5	32	2.0	1.6	2.7	1.0
2	.73	5.5	4.0	4.0	4.0	4.5	4.5	23	2.6	8.9	2.6	1.2
3	.84	5.6	4.0	4.0	4.0	4.5	4.7	24	1.5	9.0	2.5	1.1
4	.82	6.1	4.0	4.0	4.0	4.5	4.9	23	1.9	11	2.2	1.0
5	.92	6.4	4.0	4.0	4.0	4.5	5.1	24	3.6	4.4	2.2	1.0
6	.91	6.1	4.0	4.0	4.0	4.5	5.2	21	3.9	2.7	1.8	1.0
7	.93	6.1	4.0	4.0	4.0	4.5	5.4	23	3.8	2.5	1.6	1.0
8	.89	6.4	4.0	4.0	4.0	4.5	5.1	26	4.6	4.4	1.5	1.2
9	.91	6.5	4.0	4.0	4.0	4.5	4.8	23	5.4	2.5	1.5	1.4
10	.93	6.8	4.0	4.0	4.0	4.5	5.1	22	5.7	4.8	1.4	1.5
11	1.8	6.1	4.0	4.0	4.0	4.5	5.0	19	6.3	4.6	1.2	1.6
12	2.0	6.1	4.0	4.0	4.0	4.5	4.8	23	5.8	3.4	1.1	1.8
13	2.1	5.3	4.0	4.0	4.0	4.5	4.6	23	6.2	1.1	.81	2.2
14	2.1	5.4	4.0	4.0	4.0	4.5	4.7	17	6.4	1.2	.66	1.3
15	2.2	5.0	4.0	4.0	4.0	4.5	5.6	15	6.5	1.1	2.7	1.0
16	2.6	5.0	4.0	4.0	4.0	4.5	6.8	12	6.8	4.7	4.0	1.0
17	3.0	5.0	4.0	4.0	4.2	4.5	8.0	20	6.5	5.2	2.3	1.1
18	2.8	5.0	4.0	4.0	4.5	4.5	11	22	5.4	4.4	1.9	1.1
19	2.7	5.0	4.0	4.0	4.5	4.5	24	12	5.9	3.7	1.3	1.1
20	3.3	5.0	4.0	4.0	4.5	4.5	82	8.6	6.3	3.3	1.2	1.0
21	4.5	5.0	4.0	4.0	4.5	4.5	129	3.8	5.7	3.4	1.0	.90
22	5.0	5.0	4.0	4.0	4.5	4.5	118	4.0	5.7	3.2	1.0	.90
23	6.2	5.0	4.0	4.0	4.5	4.5	113	4.2	5.8	2.9	1.0	.90
24	6.7	5.0	4.0	4.0	4.5	4.5	95	5.2	5.0	2.8	1.0	.90
25	6.1	5.0	4.0	4.0	4.5	4.5	85	6.8	3.9	3.7	1.1	.90
26	5.5	5.0	4.0	4.0	4.5	4.5	76	5.7	1.7	3.7	1.3	.90
27	5.2	5.0	4.0	4.0	4.5	4.5	61	5.3	1.6	3.1	1.2	.90
28	5.2	4.5	4.0	4.0	4.5	4.5	47	3.5	1.1	2.6	1.0	.90
29	5.2	4.0	4.0	4.0	4.5	4.5	42	2.3	1.2	2.3	1.0	.90
30	6.4	4.0	4.0	4.0	---	4.5	45	2.9	1.1	3.6	1.0	.90
31	7.1	---	4.0	4.0	---	4.5	---	1.6	---	2.9	1.0	---
TOTAL	96.31	161.3	124.0	124.0	122.2	139.5	1016.8	457.9	129.9	118.7	48.77	33.60
MEAN	3.11	5.38	4.00	4.00	4.21	4.50	33.9	14.8	4.33	3.83	1.57	1.12
MAX	7.1	6.8	4.0	4.0	4.5	4.5	129	32	6.8	11	4.0	2.2
MIN	.73	4.0	4.0	4.0	4.0	4.5	4.5	1.6	1.1	1.1	.66	.90
AC-FT	191	320	246	246	242	277	2020	908	258	235	97	67

CAL YR 1979 TOTAL 3399.39 MEAN 9.31 MAX 80 MIN .37 AC-FT 6740
WTR YR 1980 TOTAL 2572.98 MEAN 7.03 MAX 129 MIN .66 AC-FT 5100

NOTE.--NO GAGE-HEIGHT RECORD NOV. 14 TO APR. 3, AUG. 21 TO SEPT. 30.

06611200 BUFFALO CREEK NEAR HEBRON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to September 1980 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 15...	1600	2.2	300	7.4	7.5	8.4	120	0	32	9.5
DEC 18...	1330	4.0	240	7.2	.0	10.6	110	0	30	8.2
APR 22...	1530	140	320	7.2	2.0	8.8	110	8	26	10

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT 15...	18	.7	3.0	120	25	3.4	.3	23	187	.25
DEC 18...	14	.6	2.1	120	18	2.6	.2	25	173	.24
APR 22...	28	1.2	12	98	59	7.1	.2	9.8	212	.29

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 15...	1.12	.02	--	.14	30	850	320	80	80
DEC 18...	1.87	.08	--	.05	20	750	180	40	40
APR 22...	80.1	.14	.48	.33	110	1600	280	200	150

06611200 BUFFALO CREEK NEAR HEBRON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT								
15...	1600	200	0	1	1	0	<1	--
APR								
22...	1530	350	60	2	2	1	<1	0

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)
OCT									
15...	--	0	0	0	0	.0	.0	0	<10
APR									
22...	0	0	4	5	4	.0	.1	--	<10

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT								
15...	0	0	0	0	0	<3	--	7.7
APR								
22...	4	0	0	0	30	10	31	30

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT					APR				
15...	1600	2.2	6	.04	22...	1530	140	21	7.9

06611300 GRIZZLY CREEK NEAR HEBRON, CO

LOCATION.--Lat 40°33'27", long 106°23'22", in SE¼SE¼ sec.20, T.7 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on right bank 1.0 mi (1.6 km) below mouth of Buffalo Creek, 2.8 mi (4.5 km) southeast of Hebron, and 2.8 mi (4.5 km) east of Coalmont.

DRAINAGE AREA.--223 mi^2 (578 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 8,130 ft (2,478 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,130 ft^3/s (32.0 m^3/s) May 9, 1980, gage height, 4.40 ft (1.341 m); maximum gage height, 4.73 ft (1.442 m) May 19, 1979, Apr. 23, 1980 (backwater from ice); minimum daily discharge, 0.47 ft^3/s (0.013 m^3/s) Sept. 22, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,130 ft^3/s (32.0 m^3/s) at 1500 May 9, gage height, 4.40 ft (1.341 m); maximum gage height, 4.73 ft (1.442 m) at 1400 Apr. 23 (backwater from ice); minimum daily discharge, 1.2 ft^3/s (0.034 m^3/s) Aug. 26-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	18	18	18	25	25	375	117	12	14	2.0
2	14	14	18	18	18	25	25	313	108	14	13	2.4
3	13	14	18	18	18	25	27	344	97	21	12	3.0
4	13	15	18	18	18	25	30	402	99	25	11	1.9
5	12	17	18	18	18	25	35	516	103	21	12	1.5
6	12	18	18	18	18	25	35	588	102	14	12	1.5
7	12	18	18	18	18	25	30	772	101	12	11	1.5
8	12	18	18	18	18	25	30	980	101	16	10	1.5
9	12	18	18	18	18	25	32	970	103	17	9.1	2.0
10	12	18	18	18	18	25	35	930	95	22	8.8	2.5
11	12	19	18	18	18	25	40	900	84	19	7.6	3.0
12	13	22	18	18	18	25	45	852	82	17	7.1	3.5
13	12	23	18	18	18	25	50	546	59	15	7.1	4.5
14	13	23	18	18	18	25	60	322	47	14	6.8	2.0
15	13	23	18	18	18	25	65	267	40	16	9.4	2.0
16	14	23	18	18	18	25	70	267	39	13	14	2.0
17	14	23	18	18	18	25	90	280	30	12	13	2.5
18	14	23	18	18	18	25	125	273	26	12	11	2.5
19	13	20	18	18	19	25	150	230	23	14	9.1	2.5
20	12	20	18	18	20	25	200	232	20	11	7.9	2.3
21	13	20	18	18	22	25	300	243	19	10	6.5	2.3
22	17	20	18	18	25	25	380	280	17	10	5.7	2.3
23	16	20	18	18	25	25	360	324	15	8.8	3.5	2.3
24	17	20	18	18	25	25	318	352	17	8.5	2.0	2.3
25	16	20	18	18	25	25	262	322	17	10	1.4	2.3
26	16	20	18	18	25	25	244	246	16	12	1.2	2.3
27	14	20	18	18	25	25	232	166	14	12	1.2	2.3
28	14	19	18	18	25	25	283	152	13	11	1.2	2.4
29	14	18	18	18	25	25	332	149	13	9.7	1.2	2.4
30	14	18	18	18	---	25	366	135	13	10	1.2	2.4
31	14	---	18	18	---	25	---	126	---	13	1.5	---
TOTAL	421	578	558	558	585	775	4276	12854	1630	432.0	232.5	69.9
MEAN	13.6	19.3	18.0	18.0	20.2	25.0	143	415	54.3	13.9	7.50	2.33
MAX	17	23	18	18	25	25	380	980	117	25	14	4.5
MIN	12	14	18	18	18	25	25	126	13	8.5	1.2	1.5
AC-FT	835	1150	1110	1110	1160	1540	8480	25500	3230	857	461	139

CAL YR 1979 TOTAL 33917.0 MEAN 92.9 MAX 876 MIN 12 AC-FT 67270
WTR YR 1980 TOTAL 22969.4 MEAN 62.8 MAX 980 MIN 1.2 AC-FT 45560

NOTE.--NO GAGE-HEIGHT RECORD NOV. 16 TO APR. 3, AUG. 23 TO SEPT. 30.

06611300 GRIZZLY CREEK NEAR HEBRON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to September 1980 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT										
18...	1615	14	240	6.9	10.0	8.7	97	3	26	7.8
DEC										
13...	1400	17	220	7.7	.0	10.0	90	0	25	6.7
APR										
24...	0930	330	300	7.5	2.5	10.4	91	0	22	8.8
MAY										
21...	1600	270	180	7.8	13.0	8.0	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
18...	12	.5	3.0	94	20	2.1	.2	24	152	.21
DEC										
13...	9.7	.4	2.1	98	18	5.0	.2	25	151	.21
APR										
24...	28	1.3	6.8	94	57	5.0	.2	12	198	.27
MAY										
21...	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
18...	5.75	.00	--	.05	20	1000	520	60	60
DEC									
13...	7.05	.07	--	.03	20	760	200	50	50
APR									
24...	176	.23	.29	.19	70	1700	380	140	90
MAY									
21...	--	--	.20	--	--	--	--	--	--

06611300 GRIZZLY CREEK NEAR HEBRON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT								
18...	1615	170	20	1	1	0	<1	--
APR								
24...	0930	340	60	2	1	1	3	6
MAY								
21...	1600	450	60	2	--	--	--	5

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)
OCT									
18...	--	0	0	0	2	.0	.0	0	<10
APR									
24...	0	2	4	2	2	.0	.1	1	<10
MAY									
21...	4	7	--	4	0	--	--	--	--

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT								
18...	0	0	0	0	0	3	6.4	5.9
APR								
24...	8	2	0	0	60	<3	19	13
MAY								
21...	--	--	--	--	20	10	--	--

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT				
18...	1615	14	9	.34
APR				
24...	0930	330	66	59
MAY				
21...	1600	270	85	62

06611800 LITTLE GRIZZLY CREEK ABOVE COALMONT, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°34'24", long 106°30'34", in SW¼SE¼ sec.17, T.7 N., R.81 W., Jackson County, Hydrologic Unit 10180001, on left bank 1.7 mi (2.7 km) below Antelope Ditch, 3.6 mi (5.7 km) west of Coalmont, and 5.6 mi (9.0 km) southwest of Hebron.

DRAINAGE AREA.--35.4 mi^2 (91.7 km^2).

PERIOD OF RECORD.--
WATER-DISCHARGE RECORDS: October 1976 to September 1979.
WATER-QUALITY RECORDS: October 1976 to September 1980 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATF (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 18...	1130	3.1	220	7.4	8.0	8.8	97	3	30	5.3
DEC 19...	0830	2.5	220	7.1	.0	9.9	97	0	30	5.3
JUN 18...	1420	80	100	7.5	17.0	7.2	42	0	13	2.2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT 18...	7.5	.3	1.7	94	11	1.3	.2	10	124	.17
DEC 19...	8.0	.4	1.2	100	13	1.2	.2	12	132	.18
JUN 18...	2.5	.2	.7	43	5.5	3.0	.1	6.4	60.0	.08

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 18...	1.04	.02	--	.01	30	1500	650	100	100
DEC 19...	.89	.13	--	.01	30	970	410	100	120
JUN 18...	13.0	.03	.04	.03	30	710	280	50	30

06611800 LITTLE GRIZZLY CREEK ABOVE COALMONT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT 18...	1130	110	30	2	1	0	2	--
JUN 18...	1420	100	20	2	--	--	--	5

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)
OCT 18...	--	0	0	0	0	.0	.0	0	<10
JUN 18...	0	4	--	2	0	--	--	--	--

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT 18...	0	1	0	0	0	10	5.7	6.0
JUN 18...	--	--	--	--	20	<3	10	11

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT 18...	1130	3.1	9	.08
JUN 18...	1420	80	19	4.1

06611900 LITTLE GRIZZLY CREEK ABOVE HEBRON, CO

LOCATION.--Lat 40°37'57", long 106°26'58", in NW¼NE¼ sec.14, T.7 N., R.81 W., Jackson County, Hydrologic Unit 10180001, on right bank 0.7 mi (1.2 km) above mouth of Chedsey Creek, 1.4 mi (2.3 km) northwest of Coalmont, and 2.5 mi (4.0 km) southwest of Hebron.

DRAINAGE AREA.--52.2 mi² (135 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to September 1980 (discontinued).

REVISED RECORDS.--WDR CO-78-1: 1977.

GAGE.--Water-stage recorder. Altitude of gage is 8,120 ft (2,475 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 469 ft³/s (13.3 m³/s) May 8, 1980, gage height, 4.33 ft (1.320 m); maximum gage height, 4.74 ft (1.445 m) Apr. 23, 1980; minimum daily discharge, 0.65 ft³/s (0.018 m³/s) Sept. 25, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 469 ft³/s (13.3 m³/s) at 1100 May 8, gage height, 4.33 ft (1.320 m); maximum gage height, 4.74 ft (1.445 m) at 0800 Apr. 23 (backwater from ice); minimum daily discharge, 1.6 ft³/s (0.045 m³/s) Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	3.2	3.5	3.5	3.5	4.5	6.5	183	120	50	9.3	2.2
2	3.6	3.0	3.5	3.5	3.5	4.5	7.0	153	121	72	8.6	2.8
3	3.2	3.2	3.5	3.5	3.5	4.5	8.0	194	109	79	7.9	2.3
4	2.8	3.4	3.5	3.5	3.5	4.5	9.0	201	121	54	7.2	2.0
5	2.4	3.4	3.5	3.5	3.5	4.5	10	218	139	39	6.9	1.8
6	2.2	3.4	3.5	3.5	3.5	4.5	10	261	147	33	6.7	1.8
7	2.2	3.4	3.5	3.5	3.5	4.5	11	299	148	24	6.4	1.8
8	2.2	4.3	3.5	3.5	3.5	4.5	10	388	142	29	6.1	2.0
9	2.2	4.3	3.5	3.5	3.5	4.5	11	364	152	32	5.5	3.6
10	2.3	3.6	3.5	3.5	3.5	4.5	12	367	177	33	5.0	4.1
11	2.3	4.5	3.5	3.5	3.5	4.5	13	367	186	29	4.7	4.1
12	2.6	4.7	3.5	3.5	3.5	4.5	13	318	190	25	4.1	4.3
13	2.6	4.7	3.5	3.5	3.5	4.5	13	237	179	25	3.9	5.8
14	2.6	4.5	3.5	3.5	3.5	4.5	15	173	158	25	3.9	4.7
15	2.8	4.5	3.5	3.5	3.5	4.5	25	152	139	24	5.5	3.6
16	3.2	4.5	3.5	3.5	3.7	4.5	35	140	127	22	6.4	3.0
17	3.4	4.5	3.5	3.5	3.9	4.5	50	159	115	22	5.8	2.3
18	3.6	4.5	3.5	3.5	4.2	4.5	70	123	112	20	5.0	1.8
19	3.6	4.5	3.5	3.5	4.5	4.5	90	117	116	19	4.1	1.6
20	4.1	4.5	3.5	3.5	4.5	4.5	120	128	127	16	3.6	1.7
21	4.7	4.5	3.5	3.5	4.5	4.5	150	153	117	16	3.4	1.8
22	4.7	4.5	3.5	3.5	4.5	4.5	181	194	111	15	3.6	2.2
23	3.9	4.5	3.5	3.5	4.5	4.5	320	245	97	13	3.0	2.2
24	4.5	4.5	3.5	3.5	4.5	4.5	292	277	83	14	3.0	2.2
25	4.7	4.5	3.5	3.5	4.5	4.5	308	242	74	15	3.6	2.2
26	4.3	4.5	3.5	3.5	4.5	4.5	295	170	69	15	4.3	2.2
27	3.2	4.5	3.5	3.5	4.5	4.5	246	146	64	13	4.5	2.0
28	3.0	4.0	3.5	3.5	4.5	4.5	213	139	56	12	3.2	2.2
29	3.0	3.5	3.5	3.5	4.5	4.5	235	145	60	9.7	2.4	2.2
30	3.2	3.5	3.5	3.5	---	5.0	240	126	45	10	2.2	2.0
31	3.0	---	3.5	3.5	---	5.8	---	116	---	9.9	2.0	---
TOTAL	99.7	123.1	108.5	108.5	113.8	141.3	3018.5	6495	3601	814.6	151.8	78.5
MEAN	3.22	4.10	3.50	3.50	3.92	4.56	101	210	120	26.3	4.90	2.62
MAX	4.7	4.7	3.5	3.5	4.5	5.8	320	388	190	79	9.3	5.8
MIN	2.2	3.0	3.5	3.5	3.5	4.5	6.5	116	45	9.7	2.0	1.6
AC-FT	198	244	215	215	226	280	5990	12880	7140	1620	301	156

CAL YR 1979 TOTAL 16276.05 MEAN 44.6 MAX 437 MIN .65 AC-FT 32280
WTR YR 1980 TOTAL 14854.30 MEAN 40.6 MAX 388 MIN 1.6 AC-FT 29460

NOTE.--NO GAGE-HEIGHT RECORD NOV. 14 TO APR. 3.

06611900 LITTLE GRIZZLY CREEK ABOVE HEBRON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 18...	1400	3.3	250	6.6	9.0	9.5	110	4	34	7.1
DEC 19...	1200	3.1	310	7.3	.0	9.1	120	13	36	8.1
APR 30...	1430	187	200	7.3	4.0	--	78	7	22	5.5
JUN 18...	1250	129	150	7.6	18.0	7.2	64	2	19	4.1

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT 18...	10	.4	1.7	110	17	2.0	.3	8.5	147	.20
DEC 19...	14	.5	1.4	110	44	4.3	.2	12	187	.25
APR 30...	14	.7	3.4	71	33	2.8	.2	7.7	134	.18
JUN 18...	5.4	.3	1.0	62	10	2.9	.2	7.1	87.0	.12

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 18...	1.31	.00	--	.08	30	1700	280	110	90
DEC 19...	1.56	.21	--	.01	30	1300	70	90	90
APR 30...	67.7	.47	.20	.04	10	2900	230	190	100
JUN 18...	30.3	.03	.06	.05	40	970	250	60	30

0661190C LITTLE GRIZZLY CREEK ABOVE HEBRON, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT								
18...	1400	350	0	1	1	0	<1	--
APR								
30...	1430	460	40	2	1	1	2	8
JUN								
18...	1250	40	20	2	--	--	--	7

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)
OCT									
18...	--	1	0	0	0	.1	.0	0	<10
APR									
30...	0	7	2	3	0	.0	.2	0	<10
JUN									
18...	0	12	--	2	0	--	--	--	--

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT								
18...	0	1	0	0	0	<3	7.7	5.6
APR								
30...	11	3	1	1	70	10	14	13
JUN								
18...	--	--	--	--	10	<3	16	12

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT				
18...	1400	3.3	16	.14
DEC				
19...	1200	3.1	--	--

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
APR				
30...	1430	187	93	47
JUN				
18...	1250	129	25	8.7

06614800 MICHIGAN RIVER NEAR CAMERON PASS, CO

LOCATION.--Lat 40°29'46", long 105°51'52", in S½ sec. 12, T. 6 N., R. 76 W. (unsurveyed), Jackson County, Hydrologic Unit 10180001, on right bank 500 ft (152 m) upstream from Michigan ditch, 2.2 mi (3.5 km) southeast of Cameron Pass, 8 mi (13 km) east of Gould, and 27 mi (43 km) southeast of Walden.

DRAINAGE AREA.--1.53 mi² (3.96 km²).

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 10,390 ft (3,167 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No diversion above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--7 years, 2.83 ft³/s (0.080 m³/s), 2,050 acre-ft/yr (2.53 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44 ft³/s (1.25 m³/s) June 18, 1974, gage height, 3.53 ft (1.076 m); minimum daily, 0.12 ft³/s (0.003 m³/s) Jan. 12, 13, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined; minimum daily, 0.19 ft³/s (0.005 m³/s) Oct. 31, Jan. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.21	.41	.22	.49	.37	.29	.49	7.0	14	3.3	1.1
2	.36	.23	.43	.22	.49	.37	.25	.45	8.0	13	2.9	1.0
3	.33	.24	.45	.22	.49	.37	.25	.45	9.0	12	2.6	.96
4	.30	.23	.45	.22	.49	.37	.25	.45	10	11	2.4	.89
5	.33	.25	.45	.22	.45	.37	.25	.45	12	15	2.2	.86
6	.33	.25	.45	.22	.45	.37	.25	.49	15	13	2.1	.83
7	.32	.25	.41	.22	.45	.37	.25	.49	17	12	2.0	.79
8	.29	.25	.41	.22	.45	.37	.25	.49	16	11	1.9	1.2
9	.33	.25	.41	.22	.45	.33	.25	.53	17	10	1.8	1.4
10	.30	.25	.41	.22	.45	.33	.25	.53	18	9.0	1.7	1.3
11	.29	.25	.41	.22	.45	.33	.29	.53	19	8.0	1.6	1.3
12	.28	.33	.41	.19	.45	.33	.29	.49	21	7.0	1.5	1.7
13	.31	.33	.41	.27	.45	.33	.29	.49	23	6.4	1.4	1.6
14	.31	.33	.41	.33	.45	.33	.29	.49	25	6.0	1.3	1.4
15	.29	.33	.37	.33	.45	.33	.29	.49	24	5.6	2.3	1.2
16	.31	.33	.37	.33	.45	.33	.29	.49	23	5.4	2.1	1.2
17	.40	.33	.37	.40	.41	.33	.29	.49	22	5.2	1.9	1.1
18	.36	.33	.37	.45	.37	.33	.29	.49	22	4.9	1.6	1.0
19	.29	.33	.37	.45	.37	.33	.33	.49	21	4.7	1.4	.97
20	.30	.33	.33	.45	.37	.33	.37	.53	21	4.6	1.3	1.4
21	.31	.33	.33	.45	.37	.33	.33	.86	21	4.5	1.0	1.3
22	.37	.37	.33	.45	.37	.33	.37	2.0	23	4.3	.95	1.2
23	.36	.37	.33	.45	.37	.33	.37	2.5	25	4.2	.91	1.1
24	.35	.33	.33	.45	.37	.33	.37	2.7	27	4.5	1.0	1.0
25	.35	.33	.33	.45	.37	.33	.37	3.0	28	4.8	1.4	1.0
26	.34	.37	.33	.45	.37	.33	.37	3.5	27	4.3	1.8	.95
27	.32	.41	.33	.41	.37	.33	.37	4.0	26	3.7	1.5	.91
28	.31	.45	.29	.41	.37	.33	.37	4.5	18	3.2	1.4	.86
29	.33	.45	.24	.44	.37	.33	.45	5.0	16	3.0	1.2	.80
30	.25	.41	.22	.49	---	.33	.49	5.4	15	3.5	1.2	.75
31	.19	---	.22	.49	---	.29	---	6.0	---	4.0	1.2	---
TOTAL	9.91	9.45	11.38	10.56	12.21	10.51	9.42	49.26	576.0	221.8	52.86	33.07
MEAN	.32	.32	.37	.34	.42	.34	.31	1.59	19.2	7.15	1.71	1.10
MAX	.40	.45	.45	.49	.49	.37	.49	6.0	28	15	3.3	1.7
MIN	.19	.21	.22	.19	.37	.29	.25	.45	7.0	3.0	.91	.75
AC-FT	20	19	23	21	24	21	19	98	1140	440	105	66

CAL YR 1979 TOTAL 1198.66 MEAN 3.28 MAX 28 MIN .12 AC-FT 2380
WTR YR 1980 TOTAL 1006.43 MEAN 2.75 MAX 28 MIN .19 AC-FT 2000

NOTE.--NO GAGE-HEIGHT RECORD JUNE 22 TO AUG. 20.

06616000 NORTH FORK MICHIGAN RIVER NEAR GOULD, CO

LOCATION.--Lat 40°32'58", long 106°01'14", in SE¼NW¼ sec.27, T.7 N., R.77 W., Jackson County, Hydrologic Unit 10180001, on left bank 25 ft (8 m) upstream from county road bridge, 0.7 mi (1.1 km) downstream from dam on recreation lake, 1.6 mi (2.6 km) north of Gould, 2.8 mi (4.5 km) upstream from mouth, and 19 mi (31 km) southeast of Walden.

DRAINAGE AREA.--21.2 mi² (54.9 km²).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 8,793 ft (2,680.1 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 6, 1964, at site 0.6 mi (1.0 km) upstream at datum 55.00 ft (16.764 m) higher. Oct. 6, 1964, to Aug. 10, 1965, at site 0.2 mi (0.3 km) upstream at different datum.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. One small diversion above station to Canadian River drainage. Slight natural regulation by recreation lake, capacity, 1,250 acre-ft (1.54 hm³), since Dec. 11, 1963. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--30 years, 17.1 ft³/s (0.484 m³/s), 12,390 acre-ft/yr (15.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 290 ft³/s (8.21 m³/s) May 25, 1961, gage height, 3.15 ft (0.960 m), site and datum then in use, from rating curve extended above 160 ft³/s (4.5 m³/s); maximum gage height, 5.23 ft (1.594 m) May 28, 1979; no flow Dec. 11, 1963, to Apr. 30, 1964, caused by filling recreation lake upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 180 ft³/s (5.10 m³/s) at 0100 May 24, gage height, 4.62 ft (1.408 m), only peak above base of 100 ft³/s (2.8 m³/s); minimum daily, 2.3 ft³/s (0.065 m³/s) Aug. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	3.6	4.0	4.0	3.5	3.0	3.1	34	100	20	3.8	4.0
2	4.2	3.6	4.0	4.0	3.5	3.0	3.1	30	90	21	3.6	3.7
3	4.2	3.4	4.0	4.0	3.5	3.0	3.1	29	86	22	3.4	3.9
4	4.2	3.6	4.0	4.0	3.5	3.0	3.1	34	88	19	3.2	4.0
5	4.2	3.7	4.0	4.0	3.5	3.0	3.1	46	92	16	3.0	4.0
6	4.2	3.5	4.0	4.0	3.5	3.0	3.1	55	95	15	2.8	4.1
7	4.1	3.5	4.0	4.0	3.5	3.0	3.1	58	91	14	2.7	4.1
8	4.0	3.6	4.0	4.0	3.5	3.0	3.1	71	87	14	2.5	4.4
9	3.9	3.5	4.0	4.0	3.5	3.0	3.1	69	89	13	2.4	4.8
10	3.9	3.6	4.0	4.0	3.5	3.0	3.1	64	89	12	2.3	4.0
11	4.0	3.7	4.0	4.0	3.5	3.0	4.1	75	84	11	2.3	3.4
12	3.9	3.9	4.0	4.0	3.5	3.0	3.1	72	81	11	2.4	3.4
13	3.7	3.8	4.0	4.0	3.4	3.0	3.1	49	77	14	2.7	3.2
14	3.6	3.6	4.0	4.0	3.3	3.0	3.1	42	70	12	3.0	3.4
15	3.6	3.4	4.0	4.0	3.2	3.0	3.1	42	63	9.8	4.0	3.4
16	4.6	3.4	4.0	4.0	3.1	3.0	3.1	44	56	8.5	4.7	3.1
17	5.0	3.3	4.0	4.0	3.0	3.0	4.0	46	51	8.0	5.6	3.1
18	5.0	3.3	4.0	3.9	3.0	3.0	4.7	44	47	7.8	4.0	3.2
19	4.7	3.6	4.0	3.8	3.0	3.0	4.9	54	48	7.6	3.0	3.3
20	5.2	3.4	4.0	3.7	3.0	3.0	5.7	64	49	7.0	2.7	3.5
21	6.3	3.6	4.0	3.6	3.0	3.0	6.5	83	40	6.0	2.6	3.5
22	5.1	3.8	4.0	3.5	3.0	3.0	8.6	114	35	5.6	2.6	3.5
23	4.7	4.0	4.0	3.5	3.0	3.0	17	140	32	5.6	2.6	3.0
24	5.0	3.5	4.0	3.5	3.0	3.0	22	152	30	5.8	3.0	2.9
25	5.0	3.5	4.0	3.5	3.0	3.0	25	125	28	6.0	3.7	2.7
26	4.9	3.6	4.0	3.5	3.0	3.0	25	96	26	6.0	6.6	2.6
27	5.0	3.7	4.0	3.5	3.0	3.0	23	80	24	5.6	6.0	2.7
28	4.3	3.7	4.0	3.5	3.0	3.0	23	80	23	5.0	5.5	2.7
29	4.2	4.0	4.0	3.5	3.0	3.0	28	80	22	4.7	5.0	2.7
30	3.7	4.0	4.0	3.5	---	3.0	33	86	21	4.3	4.5	2.7
31	3.8	---	4.0	3.5	---	3.0	---	80	---	4.0	4.0	---
TOTAL	136.5	108.4	124.0	118.0	94.0	93.0	281.0	2138	1814	321.3	110.2	103.0
MEAN	4.40	3.61	4.00	3.81	3.24	3.00	9.37	69.0	60.5	10.4	3.55	3.43
MAX	6.3	4.0	4.0	4.0	3.5	3.0	33	152	100	22	6.6	4.8
MIN	3.6	3.3	4.0	3.5	3.0	3.0	3.1	29	21	4.0	2.3	2.6
AC-FT	271	215	246	234	186	184	557	4240	3600	637	219	204

CAL YR 1979 TOTAL 6179.2 MEAN 16.9 MAX 190 MIN 2.5 AC-FT 12260
WTR YR 1980 TOTAL 5441.4 MEAN 14.9 MAX 152 MIN 2.3 AC-FT 10790

NOTE.--NO GAGE-HEIGHT RECORD NOV. 29 TO APR. 2, JULY 17 TO AUG. 19, AUG. 27 to SEPT. 30.

06619400 CANADIAN RIVER NEAR LINDLAND, CO

LOCATION.--Lat 40°41'43", long 106°03'56", in NE¼NE¼ sec.6, T.8 N., R.77 W., Jackson County, Hydrologic Unit 10180001, on right bank 1.1 mi (1.8 km) below mouth of Muddy Creek, 8.3 mi (13.4 km) north of Lindland, and 12 mi (19.3 km) east of Walden.

DRAINAGE AREA.--44.0 mi^2 (114 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,150 ft (2,484 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 177 ft^3/s (5.01 m^3/s) June 11, 1978, gage height, 4.18 ft (1.274 m); maximum gage height, 4.49 ft (1.369 m), May 20, 1978; minimum daily discharge, 3.4 ft^3/s (0.096 m^3/s) Sept. 7, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 159 ft^3/s (4.50 m^3/s) at 2100 May 18, gage heght, 3.81 ft (1.161 m); minimum daily, 4.4 ft^3/s (0.12 m^3/s) Sept. 4, 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	7.0	4.5	6.5	6.0	6.5	8.0	49	78	22	8.0	6.6
2	6.6	7.5	5.0	6.5	6.0	6.5	8.0	39	73	22	7.3	5.7
3	6.9	8.0	5.0	6.5	6.0	6.5	9.0	42	56	22	6.9	5.2
4	6.9	8.5	5.5	6.5	6.0	7.0	10	43	46	20	6.6	4.4
5	7.3	9.0	5.5	6.5	6.0	7.0	10	45	43	18	5.9	4.4
6	6.9	9.5	6.0	6.5	6.0	7.0	10	48	55	16	6.2	4.4
7	6.9	9.5	6.0	6.5	6.0	7.0	10	50	70	15	5.7	4.9
8	6.6	9.5	6.5	6.5	6.0	7.0	10	67	67	16	5.4	6.9
9	7.0	9.0	6.5	6.5	6.0	7.0	10	70	78	14	5.2	14
10	7.0	8.0	7.0	6.5	6.0	7.0	12	68	93	13	4.9	10
11	7.0	8.0	7.0	6.5	6.0	7.0	15	55	95	12	5.2	10
12	7.0	8.0	6.0	6.5	6.0	7.0	15	72	92	12	5.4	9.4
13	7.0	8.0	6.0	6.5	6.0	7.0	14	56	87	13	5.4	9.8
14	7.5	8.0	6.0	6.5	6.0	7.0	13	48	78	13	5.4	9.1
15	8.0	8.0	6.5	6.5	6.0	7.0	14	42	69	11	8.0	9.4
16	8.0	8.5	6.5	6.5	6.0	7.0	16	39	61	9.4	12	9.1
17	8.0	8.5	6.5	6.5	6.0	7.0	18	66	55	8.7	14	9.1
18	7.6	8.5	6.5	6.0	6.0	7.0	20	91	53	8.4	12	8.7
19	7.6	8.0	6.5	6.0	6.0	7.0	22	86	50	8.0	8.0	8.4
20	8.4	8.0	6.5	6.0	6.0	7.0	25	67	49	7.6	6.0	12
21	10	8.0	6.5	6.0	6.0	7.5	30	59	42	7.6	6.0	12
22	9.1	7.0	6.5	6.0	6.0	8.0	40	83	39	8.4	6.0	9.1
23	8.7	7.0	6.5	6.0	6.0	8.0	55	93	35	9.4	6.0	8.7
24	8.7	7.5	6.5	6.0	6.0	8.0	77	92	34	10	7.0	8.4
25	9.1	8.0	6.5	6.0	6.0	8.0	72	86	32	11	10	6.6
26	8.7	8.0	6.5	6.0	6.0	8.0	62	73	31	11	11	6.9
27	8.7	7.5	6.5	6.0	6.0	8.0	60	64	28	9.4	9.1	6.9
28	8.4	7.0	6.5	6.0	6.0	8.0	60	64	25	8.4	6.9	6.9
29	8.4	6.0	6.5	6.0	6.0	8.0	64	72	23	8.0	5.9	6.9
30	8.0	4.5	6.5	6.0	---	8.0	64	67	22	8.4	5.4	6.6
31	7.0	---	6.5	6.0	---	8.0	---	67	---	9.1	6.2	---
TOTAL	239.6	237.5	193.0	194.5	174.0	226.0	853.0	1963	1659	381.8	223.0	240.5
MEAN	7.73	7.92	6.23	6.27	6.00	7.29	28.4	63.3	55.3	12.3	7.19	8.02
MAX	10	9.5	7.0	6.5	6.0	8.0	77	93	95	22	14	14
MIN	6.6	4.5	4.5	6.0	6.0	6.5	8.0	39	22	7.6	4.9	4.4
AC-FT	475	471	383	386	345	448	1690	3890	3290	757	442	477

CAL YR 1979 TOTAL 6557.1 MEAN 18.0 MAX 104 MIN 4.0 AC-FT 13010
WTR YR 1980 TOTAL 6584.9 MEAN 18.0 MAX 95 MIN 4.4 AC-FT 13060

NOTE.--NO GAGE-HEIGHT RECORD DEC. 20 TO APR. 15.

06519400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1978 to current year.
WATER TEMPERATURE: April 1978 to current year.
SUSPENDED SEDIMENT DISCHARGE: May 1978 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler since May 1978. Water-quality monitor since April 1978.

REMARKS.--Daily maximum and minimum specific conductance data available in district office. Water-quality monitor shut down from Nov. 7, 1979, to Apr. 20, 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 299 micromhos Aug. 26, 1980; minimum, 74 micromhos May 27, 1979.
WATER TEMPERATURES: Maximum, 24°C June 12, 1979; minimum, 0.0°C many days during winter period.
SEDIMENT CONCENTRATIONS: Maximum daily, 139 mg/L Apr. 27, 1980; minimum daily, 2 mg/L several days during winter months each year.
SEDIMENT LOADS: Maximum daily, 27 tons (24 t) Apr. 23, 1979; minimum daily, 0.02 ton (0.02 t) many days during winter months in 1979 water year.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 299 micromhos Aug. 26; minimum, 84 micromhos June 12.
WATER TEMPERATURE: Maximum, 23.5°C July 10; minimum, 0.0°C many days during October to April
SEDIMENT CONCENTRATIONS: Maximum daily, 139 mg/L Apr. 27; minimum daily, 2 mg/L Nov. 28.
SEDIMENT LOADS: Maximum daily, 23 tons (21 t) Apr. 27, May 18; minimum daily, 0.04 ton (0.04 t) Nov. 28, Dec. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT 17...	1630	8.0	180	7.3	6.5	9.3	81	20	24	5.1
NOV 06...	1730	10	200	7.2	.0	10.6	93	33	27	6.1
DEC 20...	1200	7.1	210	7.2	.5	10.6	90	28	27	5.5
APR 24...	1345	71	185	7.5	1.0	11.2	78	33	22	5.6
JUN 18...	0830	59	110	8.3	11.0	8.2	48	9	14	3.1
JUL 01...	1550	22	120	7.7	19.5	7.0	52	0	15	3.5

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT 17...	4.2	.2	1.7	61	30	.9	.1	8.5	112	.15
NOV 06...	4.8	.2	1.1	60	41	.7	.1	8.9	129	.18
DEC 20...	4.0	.2	1.1	62	40	.6	.1	9.5	126	.17
APR 24...	5.8	.3	4.2	45	39	1.5	.1	8.2	115	.16
JUN 18...	2.7	.2	.9	39	11	3.0	.1	6.5	65.0	.09
JUL 01...	3.2	.2	.5	57	8.0	.1	.0	7.4	72.0	.10

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 17...	2.42	.00	--	.01	30	1000	530	30	30
NOV 06...	3.52	.70	--	--	20	920	410	50	40
DEC 20...	2.42	.08	--	.01	20	670	310	30	40
APR 24...	22.1	.23	.17	.05	50	3100	480	220	130
JUN 18...	10.4	.03	.04	.05	40	790	230	50	30
JUL 01...	4.28	.01	--	.04	30	780	340	70	30

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
OCT 17...	1630	190	10	0	0	0	<1	--
APR 24...	1345	500	40	2	1	1	2	5
JUN 18...	0830	190	40	1	--	--	--	5

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)
OCT 17...	--	0	0	0	0	.0	.0	0	<10
APR 24...	0	2	2	4	3	.0	.0	0	<10
JUN 16...	0	3	--	1	0	--	--	--	--

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT 17...	0	0	0	0	0	<3	5.6	4.8
APR 24...	6	0	0	0	50	10	13	14
JUN 18...	--	--	--	--	20	<3	--	8.3

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	246					---	171	103	---	182	219
2	174	235					---	173	101	126	199	210
3	169	229					---	169	107	131	191	212
4	175	201					---	165	102	134	183	215
5	178	204					---	157	91	139	186	217
6	---	194					---	151	94	147	191	212
7	---	---					---	154	91	158	190	212
8	---	---					---	170	97	159	195	210
9	---	---					---	148	99	164	197	217
10	---	---					---	178	99	176	199	190
11	---	---					---	152	95	186	193	206
12	---	---					---	171	90	188	186	190
13	---	---					---	178	90	179	190	201
14	---	---					---	165	92	176	192	192
15	---	---					---	160	95	181	217	184
16	---	---					---	159	100	189	199	182
17	---	---					---	172	105	196	196	182
18	190	---					---	197	107	199	194	180
19	197	---					---	174	110	201	188	181
20	206	---					---	167	112	204	204	208
21	213	---					---	156	111	206	207	177
22	207	---					183	135	109	203	210	172
23	226	---					193	119	109	189	217	176
24	232	---					199	103	106	182	254	179
25	223	---					214	100	107	181	232	182
26	217	---					218	101	108	177	252	188
27	210	---					214	105	109	177	226	187
28	208	---					206	105	---	178	217	193
29	218	---					189	103	---	180	216	191
30	209	---					175	101	---	182	225	196
31	230	---					---	103	---	188	236	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.0	7.0	.0	.0								
2	11.5	7.5	.0	.0								
3	11.0	7.0	.5	.0								
4	9.5	4.5	.5	.0								
5	10.0	5.5	.0	.0								
6	---	---	.0	.0								
7	---	---	---	---								
8	---	---	---	---								
9	---	---	---	---								
10	---	---	---	---								
11	---	---	---	---								
12	---	---	---	---								
13	---	---	---	---								
14	---	---	---	---								
15	---	---	---	---								
16	---	---	---	---								
17	---	---	---	---								
18	8.5	5.5	---	---								
19	8.0	6.0	---	---								
20	7.0	3.5	---	---								
21	4.0	2.0	---	---								
22	4.0	.0	---	---								
23	4.5	.0	---	---								
24	5.5	1.0	---	---								
25	6.5	2.0	---	---								
26	7.0	3.0	---	---								
27	7.5	4.0	---	---								
28	4.5	1.5	---	---								
29	3.5	1.0	---	---								
30	.5	.0	---	---								
31	.0	.0	---	---								

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	7.0	2.5	11.5	7.0	---	---	21.0	16.0	14.0	8.0
2	---	---	8.5	2.0	12.0	5.5	18.0	14.5	22.0	16.5	15.5	9.0
3	---	---	8.5	3.5	15.5	5.5	20.0	13.0	20.5	14.5	16.0	10.0
4	---	---	10.0	3.5	16.5	8.0	20.0	13.0	19.0	11.5	17.0	10.0
5	---	---	11.0	6.0	17.0	8.5	21.0	12.5	19.0	11.5	17.5	10.0
6	---	---	8.5	5.5	17.5	7.5	21.5	13.0	21.5	12.5	17.0	12.0
7	---	---	8.5	5.0	19.0	7.0	19.0	15.0	22.0	14.0	16.5	11.0
8	---	---	9.5	5.5	21.0	8.5	22.0	13.5	22.0	15.5	14.0	12.0
9	---	---	9.0	5.0	21.0	9.0	23.0	14.0	21.5	16.5	15.5	11.0
10	---	---	10.5	5.0	22.5	9.5	23.5	16.5	20.5	14.0	17.0	13.0
11	---	---	10.0	6.5	21.5	10.0	23.0	17.0	21.0	12.5	15.5	12.0
12	---	---	8.0	4.0	20.0	9.0	22.0	15.5	20.0	12.5	13.5	11.5
13	---	---	6.5	1.5	21.0	9.0	19.0	15.5	19.0	13.5	15.0	10.0
14	---	---	9.5	2.5	19.0	8.5	20.5	14.0	18.5	13.5	16.0	10.5
15	---	---	9.5	4.5	19.0	8.0	21.0	13.0	18.5	15.5	15.0	10.0
16	---	---	10.0	4.5	19.5	8.0	22.5	13.0	17.5	13.0	13.5	10.5
17	---	---	8.0	2.5	21.0	9.0	22.0	14.5	19.5	12.0	14.0	8.5
18	---	---	13.5	1.5	16.0	11.0	22.5	15.5	18.0	12.5	14.0	8.5
19	---	---	11.5	6.0	17.0	11.0	21.5	15.5	18.0	11.5	16.0	10.5
20	---	---	13.0	6.0	20.5	9.0	22.5	13.5	16.5	11.0	15.0	11.5
21	1.0	.5	16.5	7.5	20.0	11.5	23.0	14.0	17.5	10.0	13.5	10.0
22	1.0	.0	14.5	9.5	21.0	10.5	22.0	15.0	18.0	10.5	13.0	9.5
23	1.0	.5	15.5	8.5	19.5	11.0	19.5	15.5	17.5	12.5	11.5	7.0
24	1.0	.0	12.5	8.0	22.5	11.0	21.0	13.5	18.0	12.5	11.5	7.5
25	1.5	.5	11.5	4.5	22.5	11.5	19.5	13.0	17.5	13.5	11.0	6.0
26	2.5	.5	11.5	5.0	18.5	11.0	20.5	13.0	16.0	13.0	11.5	6.0
27	4.5	.5	13.0	6.0	19.0	11.0	22.0	13.0	16.5	11.0	11.5	7.0
28	6.5	.5	14.5	7.0	---	---	21.5	13.0	17.5	11.0	12.0	7.0
29	7.5	1.0	12.0	8.0	---	---	20.5	13.5	15.5	11.5	12.5	8.5
30	8.5	2.5	13.5	6.5	---	---	21.5	15.0	12.5	10.0	12.5	7.5
31	---	---	14.0	6.0	---	---	22.5	14.5	12.0	9.0	---	---

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	6.6	4	.07	7.0	15	.28	4.5	7	.09
2	6.6	3	.05	7.5	---	.28	5.0	---	.08
3	6.9	3	.06	8.0	---	.28	5.0	---	.08
4	6.9	3	.06	8.5	12	.28	5.5	3	.04
5	7.3	3	.06	9.0	---	.36	5.5	---	.09
6	6.9	3	.06	9.5	19	.49	6.0	---	.10
7	6.9	3	.06	9.5	---	.33	6.0	6	.10
8	6.6	3	.05	9.5	7	.18	6.5	---	.11
9	7.0	8	.15	9.0	---	.24	6.5	---	.11
10	7.0	5	.09	8.0	14	.30	7.0	4	.08
11	7.0	10	.19	8.0	---	.22	7.0	---	.11
12	7.0	---	.15	8.0	7	.15	6.0	---	.10
13	7.0	---	.15	8.0	---	.17	6.0	4	.06
14	7.5	---	.17	8.0	10	.22	6.0	---	.08
15	8.0	10	.22	8.0	---	.17	6.5	---	.09
16	8.0	7	.15	8.5	7	.16	6.5	7	.12
17	8.0	6	.13	8.5	---	.14	6.5	---	.09
18	7.6	5	.10	8.5	5	.11	6.5	---	.09
19	7.6	7	.14	8.0	---	.11	6.5	4	.07
20	8.4	10	.23	8.0	---	.10	6.5	---	.09
21	10	12	.32	8.0	---	.10	6.5	---	.09
22	9.1	---	.16	7.0	4	.08	6.5	---	.09
23	8.7	---	.14	7.0	---	.08	6.5	6	.11
24	8.7	6	.14	7.5	---	.08	6.5	---	.09
25	9.1	8	.20	8.0	4	.09	6.5	---	.09
26	8.7	10	.23	8.0	---	.06	6.5	5	.09
27	8.7	11	.26	7.5	---	.06	6.5	---	.09
28	8.4	7	.16	7.0	2	.04	6.5	---	.09
29	8.4	10	.23	6.0	---	.06	6.5	---	.09
30	8.0	---	.17	4.5	---	.06	6.5	4	.07
31	7.0	---	.11	---	---	---	6.5	---	.09
		JANUARY			FEBRUARY			MARCH	
1	6.5	---	.10	6.0	---	.10	6.5	---	.12
2	6.5	---	.10	6.0	---	.10	6.5	7	.12
3	6.5	7	.12	6.0	9	.15	6.5	---	.12
4	6.5	---	.10	6.0	---	.10	7.0	---	.12
5	6.5	---	.10	6.0	---	.10	7.0	---	.12
6	6.5	---	.10	6.0	---	.10	7.0	---	.12
7	6.5	8	.14	6.0	---	.10	7.0	---	.12
8	6.5	---	.10	6.0	9	.15	7.0	7	.13
9	6.5	---	.10	6.0	---	.10	7.0	---	.13
10	6.5	---	.10	6.0	---	.10	7.0	---	.13
11	6.5	---	.10	6.0	---	.10	7.0	7	.13
12	6.5	---	.10	6.0	---	.10	7.0	---	.13
13	6.5	---	.10	6.0	---	.10	7.0	---	.13
14	6.5	6	.11	6.0	---	.10	7.0	---	.13
15	6.5	---	.10	6.0	---	.10	7.0	---	.13
16	6.5	---	.10	6.0	---	.10	7.0	---	.13
17	6.5	4	.07	6.0	---	.10	7.0	---	.13
18	6.0	---	.10	6.0	---	.10	7.0	7	.13
19	6.0	---	.10	6.0	---	.10	7.0	---	.13
20	6.0	10	.16	6.0	---	.10	7.0	---	.13
21	6.0	---	.10	6.0	---	.10	7.5	---	.13
22	6.0	---	.10	6.0	---	.10	8.0	---	.13
23	6.0	11	.18	6.0	---	.10	8.0	---	.13
24	6.0	---	.10	6.0	---	.10	8.0	7	.15
25	6.0	---	.10	6.0	6	.10	8.0	---	.15
26	6.0	---	.10	6.0	---	.10	8.0	---	.15
27	6.0	---	.10	6.0	---	.10	8.0	---	.15
28	6.0	---	.10	6.0	7	.11	8.0	---	.15
29	6.0	---	.10	6.0	---	.10	8.0	---	.15
30	6.0	---	.10	---	---	---	8.0	---	.15
31	6.0	6	.10	---	---	---	8.0	---	.15

06619400 CANADIAN RIVER NEAR LINDLAND, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	4.0	---	.15	49	42	5.6	78	20	4.2
2	8.0	---	.15	39	40	4.2	73	15	3.0
3	9.0	6	.15	42	36	4.1	56	23	3.5
4	10	---	.16	43	31	3.6	46	23	2.9
5	10	---	.16	45	37	4.5	43	25	2.9
6	10	---	.16	48	30	3.9	55	29	4.3
7	10	---	.16	50	27	3.6	70	34	6.4
8	10	---	.16	67	40	7.2	67	25	4.5
9	10	6	.16	70	44	8.3	78	31	6.5
10	12	---	.24	68	34	6.2	93	46	12
11	15	---	.24	55	24	3.6	95	39	10
12	15	---	.26	72	37	7.2	92	36	8.9
13	14	7	.26	56	22	3.3	87	33	7.8
14	13	---	.35	48	21	2.7	78	27	5.7
15	14	15	.57	42	16	1.8	69	23	4.3
16	16	15	.65	39	12	1.3	61	22	3.6
17	18	16	.78	66	28	5.0	55	24	3.6
18	20	22	1.2	91	95	23	53	24	3.4
19	22	32	1.9	86	54	13	50	22	3.0
20	25	56	3.8	67	26	4.7	49	17	2.2
21	30	93	7.5	59	21	3.3	42	17	1.9
22	40	84	9.1	83	42	9.4	39	19	2.0
23	55	---	12	93	44	11	35	22	2.1
24	77	80	17	92	46	11	34	18	1.7
25	72	115	22	86	28	6.5	32	15	1.3
26	62	101	17	73	21	4.1	31	20	1.7
27	60	139	23	64	18	3.1	28	17	1.3
28	60	128	21	64	19	3.3	25	14	.95
29	64	110	19	72	23	4.5	23	15	.93
30	64	76	13	67	19	3.4	22	12	.71
31	---	---	---	67	17	3.1	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	22	16	.95	8.0	19	.39	6.6	5	.09
2	22	16	.95	7.3	16	.32	5.7	5	.08
3	22	13	.77	6.9	14	.26	5.2	5	.07
4	20	14	.76	6.6	15	.27	4.4	8	.10
5	18	16	.78	5.9	18	.29	4.4	6	.07
6	16	13	.56	6.2	11	.18	4.4	8	.10
7	15	15	.61	5.7	18	.28	4.9	9	.12
8	16	14	.60	5.4	12	.17	6.9	13	.24
9	14	10	.38	5.2	15	.21	14	30	1.1
10	13	10	.35	4.9	14	.19	10	12	.32
11	12	14	.45	5.2	12	.17	10	9	.24
12	12	12	.39	5.4	16	.23	9.4	6	.15
13	13	12	.42	5.4	12	.17	9.8	9	.24
14	13	10	.35	5.4	12	.17	9.1	3	.07
15	11	10	.30	8.0	24	.52	9.4	6	.15
16	9.4	10	.25	12	34	1.1	9.1	---	.18
17	8.7	7	.16	14	15	.57	9.1	---	.16
18	8.4	10	.23	12	9	.29	8.7	---	.14
19	8.0	11	.24	8.0	8	.17	8.4	---	.14
20	7.6	10	.21	6.0	8	.13	12	---	.26
21	7.6	19	.39	6.0	9	.15	12	7	.23
22	8.4	12	.27	6.0	6	.10	9.1	---	.18
23	9.4	14	.36	6.0	14	.23	8.7	---	.15
24	10	19	.51	7.0	44	.83	8.4	9	.20
25	11	20	.59	10	28	.76	6.6	10	.18
26	11	22	.65	11	28	.83	6.9	15	.28
27	9.4	14	.36	9.1	10	.25	6.9	9	.17
28	8.4	10	.23	6.9	18	.34	6.9	8	.15
29	8.0	16	.35	5.9	4	.06	6.9	---	.14
30	8.4	14	.32	5.4	8	.12	6.6	---	.12
31	9.1	16	.39	6.2	7	.12	---	---	---
TOTAL	381.8	---	14.13	223.0	---	9.87	240.5	---	5.82
YEAR	6584.9		521.79						

06619420 WILLIAMS DRAW NEAR WALDEN, CO

LOCATION.--Lat 40°44'17", long 106°06'49", in NE¼ sec.23, T.9 N., R.78 W., Jackson County, Hydrologic Unit 10180001, on left bank 1.200 ft (366 m) above small dam, 1.2 mi (1.9 km) above Canadian River and 8.8 mi (14.3 km) east of Walden.

DRAINAGE AREA.--3.95 mi² (10.23 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1979 to current year (seasonal record only).

GAGE.--Water-stage recorder. Altitude of gage is 8.110 ft (2.472 m), from topographic map.

REMARKS.--Records good. No diversion above station. Slight regulation by small ponds.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22 ft³/s (0.62 m³/s) Apr. 21, 1980, gage height, 11.76 ft (3.584 m), result of indirect determination of peak flow; no flow many days.

EXTREMES FOR 1979.--No flow during entire period July to October.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft³/s (0.62 m³/s) at 1420 Apr. 21, gage height, 11.76 ft (3.584 m), result of indirect determination of peak flow; no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00						.00	.46	.03	.00	.00	.00
2	.00						.00	.30	.03	.00	.00	.00
3	.00						.00	.35	.03	.00	.00	.00
4	.00						.00	.30	.02	.00	.00	.00
5	.00						.00	.26	.02	.00	.00	.00
6	.00						.00	.24	.02	.00	.00	.00
7	.00						.00	.32	.02	.00	.00	.00
8	.00						.00	.70	.01	.00	.00	.00
9	.00						.00	.30	.01	.00	.00	.00
10	.00						.00	.26	.01	.00	.00	.01
11	.00						.00	.41	.01	.00	.00	.00
12	.00						.00	1.2	.00	.00	.00	.00
13	.00						.00	.39	.00	.00	.00	.00
14	.00						.00	.19	.00	.00	.00	.00
15	.00						.03	.19	.00	.00	.00	.00
16	.00						.06	.28	.00	.00	.00	.00
17	.00						.30	.49	.00	.00	.00	.00
18	.00						1.3	2.4	.00	.00	.00	.00
19	.00						4.5	1.3	.00	.00	.00	.00
20	.00						10	.51	.00	.00	.00	.02
21	.00						11	.28	.00	.00	.00	.00
22	.00						7.1	.20	.00	.00	.00	.00
23	.00						5.1	.15	.00	.00	.00	.00
24	.00						3.1	.12	.00	.00	.00	.00
25	.00						2.3	.09	.00	.00	.00	.00
26	.00						1.4	.06	.00	.00	.00	.00
27	.00						1.1	.06	.00	.00	.00	.00
28	.00						.97	.05	.00	.00	.00	.00
29	.00						.76	.04	.00	.00	.00	.00
30	.00						.64	.05	.00	.00	.00	.00
31	.00						---	.03	---	.00	.00	---
TOTAL	.00						49.66	11.98	.21	.00	.00	.03
MEAN	.000						1.66	.39	.007	.000	.000	.001
MAX	.00						11	2.4	.03	.00	.00	.02
MIN	.00						.00	.03	.00	.00	.00	.00
AC-FT	.00						99	24	.4	.00	.00	.06

06619420 WILLIAMS DRAW NEAR WALDEN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April to September 1980.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
APR										
21...	1745	16	110	7.2	.5	48	8	11	4.9	8.1
24...	1800	2.4	264	8.3	--	76	0	17	8.2	17
29...	1800	.76	400	7.5	8.0	140	22	32	15	30
MAY										
22...	1630	.12	1150	8.1	23.0	480	61	97	58	110

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
APR									
21...	.5	3.1	40	18	2.0	.2	8.1	80.0	.11
24...	.8	3.3	76	32	2.5	.4	5.9	133	.18
29...	1.1	4.4	120	77	3.3	.4	9.7	244	.33
MAY									
22...	2.2	6.4	420	250	7.1	.8	17	809	1.10

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR									
21...	3.46	--	.46	--	10	5100	490	150	30
24...	.86	.19	.27	.21	90	1200	240	140	100
29...	.50	.02	.20	.14	160	820	130	30	10
MAY									
22...	.26	2.2	.10	.08	290	230	100	230	250

06619420 WILLIAMS DRAW NEAR WALDEN, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
APR								
21...	1745	2200	60	2	2	1	<1	4
24...	1800	560	60	2	1	1	<1	5
29...	1800	350	60	2	1	2	<1	1
MAY								
22...	1630	250	30	3	--	--	--	4

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)
APR									
21...	--	5	5	8	2	.0	.0	0	<10
24...	--	2	3	4	2	.0	.1	0	<10
29...	0	5	1	1	0	.0	.2	2	<10
MAY									
22...	0	20	--	20	1	--	--	--	--

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
APR								
21...	9	1	1	0	60	20	13	14
24...	6	0	0	0	40	6	--	--
29...	6	3	0	0	10	4	13	13
MAY								
22...	--	--	--	--	20	20	--	--

06619450 CANADIAN RIVER NEAR BROWNLEE, CO

LOCATION.--Lat 40°28'29", long 106°14'09", in NE¼SW¼ sec.26, T.10 N., R.79 W., Jackson County, Hydrologic Unit 10180001, on right bank 3.1 mi (5.0 km) east of Brownlee, 3.9 mi (6.3 km) below mouth of Coon Creek, and 4.7 mi (7.6 km) north of Walden.

DRAINAGE AREA.--158 mi^2 (409 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,930 ft (2,417 m) from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by numerous diversions for irrigation of hay meadows and return flows from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 352 ft^3/s (9.97 m^3/s) Apr. 23, 1980, gage height, 4.29 ft (1.308 m); maximum gage height, 4.92 ft (1.500 m) at 1700 Apr. 22, 1980 (backwater from ice); minimum daily discharge, 2.6 ft^3/s (0.074 m^3/s) Sept. 9, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 352 ft^3/s (9.97 m^3/s) at 1600 Apr. 23, gage height, 4.29 ft (1.308 m); maximum gage height, 4.92 ft (1.500 m) at 1700 Apr. 22 (backwater from ice); minimum daily discharge, 4.4 ft^3/s (0.12 m^3/s) Aug. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	11	5.0	7.0	8.0	8.0	10	133	127	28	15	10
2	8.4	11	5.5	7.0	8.0	9.0	10	109	136	30	14	10
3	8.4	12	5.5	7.0	8.0	9.0	11	99	128	29	11	8.0
4	8.4	13	6.0	7.0	8.0	9.0	12	96	98	24	8.8	6.8
5	9.4	13	6.0	7.0	8.0	9.0	14	96	103	22	8.0	6.1
6	9.4	14	6.0	7.0	8.0	9.0	14	101	121	16	6.8	4.9
7	9.4	14	6.0	7.0	8.0	9.0	14	107	135	12	6.5	4.9
8	9.4	14	6.5	7.0	8.0	9.0	14	132	143	16	6.1	5.7
9	9.4	13	7.0	7.0	8.0	9.0	16	140	159	16	5.3	12
10	8.8	12	7.0	7.0	8.0	9.0	18	136	168	16	4.9	19
11	8.8	12	6.5	7.0	8.0	9.0	18	130	182	14	4.7	17
12	9.4	11	6.0	7.5	8.0	9.0	17	139	190	13	4.4	15
13	9.4	11	6.0	7.5	8.0	9.0	16	148	182	12	4.4	16
14	9.4	11	6.5	8.0	8.0	9.0	16	119	172	15	6.1	14
15	10	11	6.5	8.0	8.0	9.0	18	100	145	14	9.4	12
16	12	12	7.0	8.0	8.0	9.0	20	91	134	9.0	16	10
17	14	12	7.0	8.0	8.0	9.0	25	93	127	8.0	19	7.6
18	14	13	7.0	8.0	8.0	9.0	30	133	115	10	14	7.2
19	14	13	7.0	8.0	8.0	10	40	182	110	10	8.8	6.5
20	16	12	7.0	8.0	8.0	10	70	216	114	15	6.8	10
21	18	11	7.0	8.0	8.0	10	120	127	103	13	6.1	15
22	16	10	7.0	8.0	8.0	10	200	113	85	14	6.5	16
23	16	8.0	7.0	8.0	8.0	10	300	134	72	17	6.8	13
24	18	8.0	7.0	8.0	8.0	10	301	154	58	17	6.1	11
25	19	9.0	7.0	8.0	8.0	10	198	161	52	20	14	10
26	18	9.0	7.0	8.0	8.0	10	166	156	48	20	16	10
27	17	8.0	7.0	8.0	8.0	10	136	139	43	19	17	9.4
28	15	7.0	7.0	8.0	8.0	10	143	125	39	16	15	9.4
29	15	6.0	7.0	8.0	8.0	10	134	123	36	13	10	9.4
30	14	5.0	7.0	8.0	---	10	135	129	32	13	7.6	8.8
31	13	---	7.0	8.0	---	10	---	129	---	14	9.4	---
TOTAL	385.8	326.0	204.0	236.0	232.0	291.0	2236	3990	3357	505.0	294.5	314.7
MEAN	12.4	10.9	6.58	7.61	8.00	9.39	74.5	129	112	16.3	9.50	10.5
MAX	19	14	7.0	8.0	8.0	10	301	216	190	30	19	19
MIN	8.4	5.0	5.0	7.0	8.0	8.0	10	91	32	8.0	4.4	4.9
AC-FT	765	647	405	468	460	577	4440	7910	6660	1000	584	624

CAL YR 1979 TOTAL 10550.9 MEAN 28.9 MAX 214 MIN 4.0 AC-FT 20930
WTR YR 1980 TOTAL 12372.0 MEAN 33.8 MAX 301 MIN 4.4 AC-FT 24540

NOTE.--NO GAGE-HEIGHT RECORD DEC. 19 TO APR. 14.

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1978 to current year.
WATER TEMPERATURE: April 1978 to current year.
SUSPENDED SEDIMENT DISCHARGE: May 1978 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler since May 1978. Water-quality monitor since April 1978.

REMARKS.--Daily maximum and minimum specific conductance data available in district office. Water-quality monitor shut down Nov. 7, 1979, to Apr. 20, 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 472 micromhos July 18, 1980; minimum, 147 micromhos June 4, 1980.
WATER TEMPERATURES: Maximum, 28.5°C July 22, 1980; minimum, 0.0°C many days during winter period.
SEDIMENT CONCENTRATIONS: Maximum daily, 282 mg/L Apr. 26, 1980; minimum daily, 2 mg/L on many days during winter months in 1978.
SEDIMENT LOADS: Maximum daily, 176 tons (160 t) Apr. 24, 1980; minimum daily, 0.02 ton (0.02 t) on many days during winter months in 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 472 micromhos July 18; minimum, 147 micromhos June 4.
WATER TEMPERATURES: Maximum, 28.5°C July 22; minimum, 0.0°C many days during October to April.
SEDIMENT CONCENTRATIONS: Maximum, 282 mg/L Apr. 26; minimum daily, 3 mg/L on several days during October and September.
SEDIMENT LOADS: Maximum daily, 176 tons (160 t) Apr. 24; minimum daily, 0.04 ton (0.04 t) Sept. 6.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)
OCT 16...	1325	11	270	--	7.0	8.7	120	22	35	8.4
NOV 07...	1000	14	300	7.4	.0	10.9	140	19	39	10
DEC 19...	1700	6.7	290	7.1	.0	8.0	130	18	37	8.6
APR 23...	1300	322	260	7.8	2.0	10.4	110	32	27	9.4
JUN 16...	1420	136	220	7.9	17.5	7.0	96	0	27	6.9

DATE	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
OCT 16...	10	.4	2.0	100	34	1.4	.2	8.7	160	.22
NOV 07...	12	.4	1.7	120	48	1.6	.2	11	198	.27
DEC 19...	8.9	.3	1.6	110	44	1.2	.2	12	180	.24
APR 23...	14	.6	5.0	74	49	11	.2	8.4	170	.23
JUN 16...	6.7	.3	1.3	100	18	2.8	.2	11	134	.18

DATE	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	BORON, DISSOLVED (UG/L AS B)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 16...	4.75	.01	--	.03	30	460	110	40	30
NOV 07...	7.48	.47	--	--	40	630	150	40	30
DEC 19...	3.26	.09	--	.01	30	350	80	30	30
APR 23...	148	.28	.17	.07	80	1900	380	300	240
JUN 16...	49.2	.02	.05	.03	50	1000	230	50	10

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
OCT 16...	1325	0	0	1	0	0	<1	--
APR 23...	1300	360	40	2	1	1	<1	[illegible]
JUN 16...	1420	260	70	1	--	--	--	7

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)
OCT 16...	--	0	0	0	0	.0	.0	0	<10
APR 23...	0	3	3	3	4	.0	.0	0	<10
JUN 16...	0	4	--	1	1	--	--	--	--

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)
OCT 16...	0	0	0	0	0	<3	6.7	6.1
APR 23...	9	3	0	0	60	3	17	16
JUN 16...	--	--	--	--	10	<3	11	12

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	264					---	278	190	305	311	303
2	---	292					---	287	184	324	316	296
3	---	309					---	288	175	343	309	297
4	---	310					---	283	154	367	322	308
5	---	---					---	281	165	370	324	319
6	289	---					---	274	184	386	334	329
7	290	---					---	274	195	405	350	330
8	291	---					---	317	201	400	338	326
9	292	---					---	328	216	415	342	314
10	295	---					---	312	214	415	346	300
11	296	---					---	316	222	419	355	289
12	295	---					---	322	217	421	369	304
13	293	---					---	320	209	399	380	277
14	290	---					---	307	210	400	377	286
15	290	---					---	281	208	413	377	282
16	284	---					---	274	222	421	366	282
17	291	---					---	270	261	437	325	292
18	294	---					---	300	---	443	348	298
19	288	---					---	390	---	426	345	300
20	269	---					---	387	---	388	354	295
21	264	---					---	317	---	373	360	302
22	234	---					---	297	---	374	360	271
23	194	---					303	235	260	346	347	282
24	210	---					296	215	281	323	351	287
25	230	---					282	199	---	307	314	283
26	249	---					288	190	---	295	294	284
27	265	---					307	192	---	287	301	288
28	281	---					309	200	---	298	284	288
29	277	---					300	195	---	309	304	291
30	280	---					285	196	299	320	300	293
31	250	---					---	198	---	321	291	---

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	.0	.0								
2	---	---	.0	.0								
3	---	---	.0	.0								
4	---	---	.0	.0								
5	13.0	6.0	.0	.0								
6	15.5	2.5	.0	.0								
7	15.0	3.0	---	---								
8	15.0	2.5	---	---								
9	14.0	4.0	---	---								
10	14.5	3.0	---	---								
11	15.0	4.0	---	---								
12	14.5	3.0	---	---								
13	14.0	2.0	---	---								
14	10.5	3.0	---	---								
15	11.5	2.0	---	---								
16	11.5	3.5	---	---								
17	9.5	1.5	---	---								
18	10.5	4.0	---	---								
19	10.0	5.0	---	---								
20	6.0	2.5	---	---								
21	3.5	.0	---	---								
22	4.5	.5	---	---								
23	6.0	.0	---	---								
24	8.5	.0	---	---								
25	9.5	.5	---	---								
26	9.5	2.5	---	---								
27	9.5	.0	---	---								
28	7.0	.0	---	---								
29	3.5	.0	---	---								
30	.5	.0	---	---								
31	.0	.0	---	---								

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	7.0	4.0	13.5	10.0	25.0	13.5	23.5	13.5	14.5	5.5
2	---	---	11.0	4.0	14.0	9.5	22.0	15.0	24.0	13.0	19.5	6.0
3	---	---	11.0	6.5	16.0	10.5	24.5	13.0	21.0	11.5	18.0	7.0
4	---	---	11.5	6.0	18.0	11.0	24.5	13.5	21.5	8.5	21.0	6.5
5	---	---	12.0	8.0	17.5	11.0	25.0	11.5	23.0	8.5	24.0	7.0
6	---	---	12.0	8.0	17.5	11.0	25.0	11.0	25.0	10.0	22.0	9.5
7	---	---	11.5	8.0	19.0	10.0	22.0	13.0	27.5	11.0	22.0	8.0
8	---	---	11.5	8.0	20.5	11.5	24.0	13.0	26.5	13.0	14.0	10.5
9	---	---	10.5	8.0	21.5	13.0	25.0	12.0	24.5	13.5	18.5	8.5
10	---	---	11.5	7.5	22.0	13.5	26.5	14.5	25.5	10.5	19.5	11.5
11	---	---	12.0	9.0	21.5	15.0	26.5	15.5	26.0	8.5	16.0	9.5
12	---	---	9.5	6.0	20.0	14.0	26.0	13.5	24.0	9.0	12.5	9.5
13	---	---	8.5	4.5	20.5	13.0	21.5	13.5	23.0	10.0	18.0	7.0
14	---	---	11.0	6.0	19.0	13.0	23.5	12.5	23.0	11.0	20.0	7.0
15	---	---	11.0	7.0	18.5	11.5	24.0	11.5	22.5	13.5	17.0	7.5
16	---	---	12.0	7.5	20.5	11.5	27.0	11.5	18.0	10.0	16.0	8.0
17	---	---	10.0	6.0	22.0	13.5	24.0	12.0	20.5	9.5	18.0	5.0
18	---	---	12.5	4.5	21.5	15.0	26.5	13.0	18.5	9.5	18.5	5.0
19	---	---	12.5	9.5	18.0	14.0	23.5	12.5	21.0	8.0	18.5	8.0
20	---	---	15.5	8.0	21.5	12.0	25.0	12.0	20.0	8.0	17.5	7.0
21	---	---	18.5	11.0	22.0	13.5	28.0	12.0	22.5	6.0	15.5	6.5
22	1.5	---	19.0	13.5	23.0	13.0	28.5	13.5	23.0	6.5	16.0	5.0
23	2.0	1.0	18.0	13.5	21.5	13.5	24.5	14.5	23.0	9.5	14.5	3.5
24	2.5	.5	15.0	12.0	23.5	12.5	22.5	13.0	21.0	11.5	15.5	5.0
25	6.0	.5	11.5	8.0	24.5	13.0	21.5	11.5	21.0	11.0	16.0	2.5
26	6.0	.0	12.5	7.5	22.0	13.5	24.5	11.5	18.5	10.5	17.0	3.0
27	8.5	1.0	14.0	9.5	22.0	13.0	25.5	12.0	17.5	9.0	16.0	4.0
28	8.5	4.5	15.5	10.0	22.5	11.5	26.0	12.0	20.0	10.0	17.5	4.0
29	10.0	5.0	13.5	11.5	23.0	12.0	22.5	11.5	19.0	9.5	18.5	6.0
30	7.5	5.0	15.0	9.5	23.0	14.0	23.0	12.5	17.5	7.0	18.0	4.0
31	---	---	14.0	10.5	---	---	26.0	12.5	14.0	7.0	---	---

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	8.8	3	.07	11	13	.39	5.0	8	.11
2	8.4	4	.09	11	---	.25	5.5	---	.10
3	8.4	3	.07	12	---	.22	5.5	---	.10
4	8.4	3	.07	13	6	.21	6.0	5	.08
5	9.4	6	.15	13	---	.24	6.0	---	.08
6	9.4	4	.10	14	---	.26	6.0	---	.08
7	9.4	5	.13	14	8	.30	6.0	6	.10
8	9.4	5	.13	14	7	.26	6.5	---	.08
9	9.4	3	.08	13	---	.24	7.0	---	.08
10	8.8	4	.10	12	17	.55	7.0	5	.09
11	8.8	3	.07	12	---	.22	6.5	---	.08
12	9.4	6	.15	11	20	.59	6.0	---	.08
13	9.4	3	.08	11	---	.20	6.0	9	.15
14	9.4	8	.20	11	8	.24	6.5	---	.08
15	10	13	.35	11	---	.20	6.5	---	.08
16	12	8	.26	12	9	.29	7.0	12	.23
17	14	---	.35	12	---	.22	7.0	---	.08
18	14	14	.53	13	---	.24	7.0	---	.08
19	14	16	.60	13	---	.24	7.0	6	.11
20	16	13	.56	12	---	.22	7.0	---	.08
21	18	17	.83	11	---	.20	7.0	---	.08
22	16	19	.82	10	---	.20	7.0	---	.08
23	16	---	.80	8.0	---	.16	7.0	4	.08
24	18	17	.83	8.0	---	.16	7.0	---	.08
25	19	10	.51	9.0	7	.17	7.0	---	.08
26	18	14	.68	9.0	---	.16	7.0	5	.09
27	17	7	.32	8.0	---	.14	7.0	---	.08
28	15	---	.30	7.0	5	.09	7.0	---	.08
29	15	8	.32	6.0	---	.10	7.0	---	.08
30	14	---	.30	5.0	---	.10	7.0	4	.08
31	13	8	.28	---	---	---	7.0	---	.08
		JANUARY			FEBRUARY			MARCH	
1	7.0	---	.08	8.0	---	.14	8.0		.16
2	7.0	---	.10	8.0	---	.14	9.0		.16
3	7.0	6	.11	8.0	13	.28	9.0		.16
4	7.0	---	.10	8.0	---	.14	9.0		.16
5	7.0	---	.10	8.0	---	.14	9.0		.16
6	7.0	---	.10	8.0	---	.14	9.0		.16
7	7.0	7	.13	8.0	---	.14	9.0		.16
8	7.0	---	.10	8.0	8	.17	9.0		.16
9	7.0	---	.10	8.0	---	.14	9.0		.16
10	7.0	---	.10	8.0	---	.14	9.0		.16
11	7.0	---	.10	8.0	---	.14	9.0		.16
12	7.5	---	.10	8.0	---	.14	9.0		.16
13	7.5	---	.10	8.0	---	.14	9.0		.16
14	8.0	6	.13	8.0	---	.14	9.0		.16
15	8.0	---	.12	8.0	---	.14	9.0		.16
16	8.0	---	.12	8.0	---	.16	9.0		.16
17	8.0	7	.15	8.0	---	.16	9.0		.16
18	8.0	---	.12	8.0	---	.16	9.0		.16
19	8.0	---	.12	8.0	---	.16	10		.18
20	8.0	19	.41	8.0	---	.16	10		.18
21	8.0	---	.12	8.0	---	.16	10		.18
22	8.0	---	.12	8.0	---	.16	10		.18
23	8.0	9	.19	8.0	---	.16	10		.18
24	8.0	---	.12	8.0	---	.16	10		.18
25	8.0	---	.12	8.0	---	.16	10		.18
26	8.0	---	.12	8.0	---	.16	10		.18
27	8.0	---	.12	8.0	---	.16	10		.18
28	8.0	---	.12	8.0	---	.16	10		.18
29	8.0	---	.12	8.0	---	.16	10		.18
30	8.0	---	.12	---	---	---	10		.18
31	8.0	7	.15	---	---	---	10		.18

06619450 CANADIAN RIVER NEAR BROWNLEE, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	10	---	.18	133	174	63	127	117	40
2	10	---	.18	109	143	42	136	---	45
3	11	---	.20	99	132	35	128	117	40
4	12	---	.20	96	132	34	98	112	30
5	14	---	.25	96	118	31	103	146	41
6	14	---	.25	101	110	30	121	130	42
7	14	---	.25	107	101	29	135	115	42
8	14	---	.25	132	115	41	143	103	40
9	16	---	.25	140	120	45	159	73	31
10	18	---	.30	136	126	46	168	64	29
11	18	---	.30	130	120	42	182	72	35
12	17	---	.30	139	132	50	190	70	36
13	16	---	.30	148	142	57	182	75	37
14	16	---	.40	119	96	31	172	78	36
15	18	---	.50	100	74	20	145	102	40
16	20	13	.70	91	63	15	134	86	31
17	25	8	.54	93	59	15	127	84	29
18	30	14	1.1	133	66	24	115	91	28
19	40	15	1.6	182	134	66	110	97	29
20	70	21	4.0	216	85	50	114	74	23
21	120	---	16	127	61	21	103	54	15
22	200	---	54	113	56	17	85	60	14
23	300	216	175	134	59	21	72	60	12
24	301	216	176	154	56	23	58	59	9.2
25	198	255	136	161	64	28	52	47	6.6
26	166	282	126	156	59	25	48	49	6.4
27	136	---	68	139	59	22	43	37	4.3
28	143	---	75	125	67	23	39	30	3.2
29	134	---	70	123	84	28	36	26	2.5
30	135	207	75	129	86	30	32	22	1.9
31	---	---	---	129	103	36	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	28	19	1.4	15	24	.97	10	5	.14
2	30	23	1.9	14	16	.60	10	12	.32
3	29	24	1.9	11	14	.42	8.0	6	.13
4	24	21	1.4	8.8	12	.29	6.8	8	.15
5	22	15	.89	8.0	10	.22	6.1	6	.10
6	16	21	.91	6.8	14	.26	4.9	3	.04
7	12	16	.52	6.5	8	.14	4.9	5	.07
8	16	19	.82	6.1	11	.18	5.7	4	.06
9	16	12	.52	5.3	10	.14	12	21	.68
10	16	17	.73	4.9	10	.13	19	55	2.8
11	14	12	.45	4.7	13	.16	17	24	1.1
12	13	14	.49	4.4	13	.15	15	23	.93
13	12	18	.58	4.4	8	.10	16	27	1.2
14	15	22	.89	6.1	8	.13	14	12	.45
15	14	15	.57	9.4	15	.38	12	30	.97
16	9.0	11	.27	16	31	1.3	10	16	.43
17	8.0	8	.17	19	33	1.7	7.6	7	.14
18	10	11	.30	14	13	.49	7.2	9	.17
19	10	10	.27	8.8	6	.14	6.5	18	.32
20	15	13	.53	6.8	---	.10	10	19	.51
21	13	19	.67	6.1	4	.07	15	16	.65
22	14	20	.76	6.5	5	.09	16	33	1.4
23	17	31	1.4	6.8	6	.11	13	12	.42
24	17	26	1.2	6.1	10	.16	11	9	.27
25	20	30	1.6	14	21	.79	10	10	.27
26	20	26	1.4	16	20	.86	10	6	.16
27	19	16	.82	17	13	.60	9.4	8	.20
28	16	19	.82	15	11	.45	9.4	13	.33
29	13	18	.63	10	8	.22	9.4	9	.23
30	13	17	.60	7.6	5	.10	8.8	10	.24
31	14	22	.83	9.4	6	.15	---	---	---
TOTAL	505.0	---	26.24	294.5	---	11.60	314.7	---	14.88

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO

LOCATION.--Lat 40°56'10", long 106°20'21", in SW¼SE¼ sec.11, T.11 N., R.80 W., Jackson County, Hydrologic Unit 10180001, on right bank 350 ft (110 m) downstream from bridge on State Highway 125, 0.8 mi (1.3 km) upstream from Camp Creek, 4.2 mi (6.8 km) northwest of Northgate, and 4.4 mi (7.1 km) south of Colorado-Wyoming State line.

DRAINAGE AREA.--1,431 mi² (3,706 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to November 1904 (published as "near Pinkhampton"), May 1915 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1916-21, 1929(M), 1930-32. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,810.39 ft (2,380.607 m) National Geodetic Vertical Datum of 1929. See WSP 1730 for history of changes prior to Apr. 8, 1918. Apr. 8, 1918, to Aug. 21, 1961, water-stage recorder, at site 0.8 mi (1.3 km) downstream at datum 3.36 ft (1.024 m) lower.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of about 130,000 acres (526 km²) of hay meadows above station. Transbasin diversions above station to Cache la Poudre River basin (see elsewhere in this report).

AVERAGE DISCHARGE.--65 years, 433 ft³/s (12.26 m³/s), 313,700 acre-ft/yr (387 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,720 ft³/s (190 m³/s) June 11, 1923, gage height, 6.24 ft (1.902 m), site and datum then in use; maximum gage height recorded, 8.84 ft (2.694 m) Apr. 9, 1962 (ice jam); minimum daily discharge, 19 ft³/s (0.54 m³/s) July 17-19, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,260 ft³/s (177 m³/s) Apr. 26, gage height, 7.63 ft (2.326 m); maximum gage height, 9.65 ft (2.941 m) Apr. 25 (ice jam); minimum daily discharge, 48 ft³/s (1.36 m³/s) Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	94	70	79	54	117	158	2770	1150	1130	277	111
2	80	100	76	81	62	121	161	2480	1110	1390	264	110
3	77	104	84	83	72	126	166	2210	1110	1520	246	101
4	76	110	93	85	69	130	180	2120	990	1390	216	91
5	75	113	94	86	67	133	193	2060	1020	1190	197	86
6	76	116	92	85	68	132	204	2200	1150	984	183	84
7	75	117	91	83	67	130	211	2320	1220	855	169	84
8	70	117	89	85	63	130	218	3020	1300	917	163	88
9	66	113	86	88	56	134	222	3290	1400	923	154	117
10	66	107	77	90	57	140	227	3080	1540	806	142	152
11	66	100	71	89	61	143	228	2980	1690	737	139	143
12	66	98	75	91	67	143	230	3020	1750	689	132	139
13	66	100	79	95	75	141	233	2860	1800	643	126	151
14	68	107	81	97	84	148	242	2420	1870	661	126	162
15	68	114	84	97	90	153	258	1900	1660	554	148	147
16	70	118	87	95	94	148	277	1640	1500	474	201	125
17	75	121	89	94	98	143	300	1650	1370	428	208	110
18	77	116	90	92	102	143	350	1890	1320	465	190	94
19	78	107	92	89	103	151	410	1920	1400	490	160	81
20	90	96	91	88	104	160	630	1820	1540	448	138	83
21	124	86	89	88	104	169	1270	1590	1440	439	133	92
22	121	78	87	88	103	169	2150	1560	1410	406	123	96
23	112	81	84	87	102	167	3350	1740	1380	390	118	101
24	121	85	81	85	99	165	3850	1980	1280	355	121	105
25	134	87	83	81	96	163	4200	2150	1220	345	138	101
26	151	85	84	77	100	162	4400	2200	1180	350	162	101
27	151	81	86	71	108	160	3000	1880	1210	325	184	94
28	137	73	81	64	115	160	2490	1560	1200	325	157	89
29	124	63	71	57	120	159	2470	1420	1100	295	134	89
30	116	67	73	51	---	159	2620	1380	1040	286	114	89
31	98	---	76	48	---	158	---	1230	---	277	108	---
TOTAL	2857	2954	2586	2569	2460	4557	34898	66340	40350	20487	5071	3216
MEAN	92.2	98.5	83.4	82.9	84.8	147	1163	2140	1345	661	164	107
MAX	151	121	94	97	120	169	4400	3290	1870	1520	277	162
MIN	66	63	70	48	54	117	158	1230	990	277	108	81
AC-FT	5670	5860	5130	5100	4880	9040	69220	131600	80030	40640	10060	6380

CAL YR 1979 TOTAL 205921 MEAN 564 MAX 3750 MIN 63 AC-FT 408400
WTR YR 1980 TOTAL 188345 MEAN 515 MAX 4400 MIN 48 AC-FT 373600

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1965 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1965 to September 1966, June 1971 to November 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum 22.0°C Aug. 15, 25, 1971, July 29, Aug. 9, 13, 1972; minimum, freezing point many days during winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)
OCT									
16...	0820	72	300	8.1	5.0	2	9.0	54	130
NOV									
13...	0730	--	295	7.8	.0	5	10.8	26	110
DEC									
11...	0830	--	280	7.4	.0	5	9.0	--	110
JAN									
15...	0810	--	235	7.2	.0	4	8.2	35	110
FEB									
25...	1600	--	280	7.1	.0	3	8.0	K4	97
APR									
24...	0730	--	320	7.3	.5	10	8.1	92	88
MAY									
19...	1620	1910	300	7.8	12.0	20	8.1	64	95
JUN									
23...	1630	1340	265	7.8	18.5	10	7.3	--	110
JUL									
14...	1330	661	370	8.1	18.5	5	8.1	120	140
AUG									
19...	1530	157	270	8.2	19.5	4	8.2	56	90
SEP									
18...	1615	89	--	8.4	17.0	--	9.0	K4	310

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY FIELD (MG/L AS CACO3)
OCT									
16...	0	40	7.8	17	.6	3.3	170	0	140
NOV									
13...	0	31	8.3	17	.7	2.3	150	0	120
DEC									
11...	0	32	7.1	15	.6	2.5	140	0	120
JAN									
15...	0	27	9.1	14	.6	2.3	130	0	110
FEB									
25...	0	27	7.0	11	.5	2.3	130	0	110
APR									
24...	0	22	7.9	22	1.0	5.3	110	0	90
MAY									
19...	0	26	7.2	23	1.0	2.7	120	0	98
JUN									
23...	12	29	8.3	7.2	.3	2.1	120	0	98
JUL									
14...	9	34	12	11	.4	1.6	160	0	130
AUG									
19...	0	24	7.3	11	.5	2.2	110	0	90
SEP									
18...	89	84	23	46	1.1	4.6	270	0	220

K BASED ON NON-IDEAL COLONY COUNT.

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 16...	29	.9	.6	12	191	.26	37.1	.10	.02
NOV 13...	31	1.8	.5	11	176	.24	47.5	.10	.03
DEC 11...	24	3.4	.6	13	167	.23	32.0	.00	.00
JAN 15...	21	2.1	.5	13	154	.21	40.3	.29	.02
FEB 25...	16	1.8	.4	14	141	.19	36.5	.30	.03
APR 24...	44	4.6	.4	--	--	--	--	.75	.21
MAY 19...	44	3.4	.3	11	180	.24	928	.06	.05
JUN 23...	18	1.7	.6	10	136	.18	492	.10	.03
JUL 14...	23	2.0	.5	9.7	170	.23	303	.25	.05
AUG 19...	12	4.0	.5	6.7	125	.17	53.0	.61	.06
SEP 18...	170	17	.6	15	490	.67	118	.21	.08

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL (UG/L)
OCT 16...	0820	.0	0	--	.00	.0	.00	.0	.00	.0	.00
JUN 23...	1630	.0	0	.00	.00	.0	.00	.0	.00	.1	.00
JUL 14...	1330	--	--	--	--	--	--	--	--	--	--
SEP 18...	1615	--	--	--	--	--	--	--	--	--	--

DATE	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)
OCT 16...	.1	.00	.0	.00	.00	.0	.00	.00	.0	.00	.00
JUN 23...	.1	.00	.0	.00	.00	.0	.00	.00	.0	.00	.00
JUL 14...	--	--	--	--	--	--	--	--	--	--	--
SEP 18...	--	--	--	--	--	--	--	--	--	--	--

06620000 NORTH PLATTE RIVER NEAR NORTHGATE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)
OCT 16...	.0	.00	.0	.00	.0	.00	.00	.0	.00	.00	.00
JUN 23...	.0	.00	.0	.00	.0	.00	.00	.0	.00	.00	.00
JUL 14...	--	--	--	--	--	--	--	--	--	--	--
SEP 18...	--	--	--	--	--	--	--	--	--	--	--

DATE	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4-D, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	2,4,5-T TOTAL (UG/L)	2,4,5-T TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	SILVEX, TOTAL (UG/L)	SILVEX, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 16...	.00	.00	0	0	.00	.00	0	.00	0	.00	0
JUN 23...	.00	.00	0	0	.00	.00	0	.00	0	.00	0
JUL 14...	--	--	--	--	--	.00	0	.00	0	.00	0
SEP 18...	--	--	--	--	--	.00	0	.00	0	.00	0

06657500 LARAMIE RIVER NEAR GLENDEVEY, CO

LOCATION.--Lat 40°48'02", long 105°52'40", in NW¼NW¼ sec.36, T.10 N., R.76 W., Larimer County, Hydrologic Unit 10180010, on left bank 200 ft (61 m) downstream from bridge on county road, 350 ft (110 m) downstream from Nunn Creek, 1,300 ft (400 m) upstream from Stub Creek, and 3.0 mi (4.8 km) east of Glendevey.

DRAINAGE AREA.--101 mi^2 (262 km^2).

PERIOD OF RECORD.--June 1904 to October 1905, August 1910 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at Glendevey" 1905, 1910-18.

REVISED RECORDS.--WSP 469: 1911-12. WSP 506: Drainage area. WSP 1310: 1905, 1914. WSP 1918: 1918 (monthly runoff).

GAGE.--Water-stage recorder. Altitude of gage is 8,230 ft (2,509 m), from topographic map. See WSP 1730 for history of changes prior to Sept. 20, 1935.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 700 acres (2.83 km^2) of hay meadows above station. Transbasin diversions above station to Cache la Poudre River and tributaries (see elsewhere in this report). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--71 years, 73.3 ft^3/s (2.076 m^3/s), 53,100 acre-ft/yr (65.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,240 ft^3/s (63.4 m^3/s) June 9, 1923, gage height, 4.55 ft (1.387 m), from floodmarks, site and datum then in use, from rating curve extended above 1,400 ft^3/s (40 m^3/s); minimum daily recorded, 5.0 ft^3/s (0.14 m^3/s) Feb. 14, 15, 1911, but may have been less during winter periods of no gage-height record.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 804 ft^3/s (22.8 m^3/s) at 0400 June 12, gage height, 3.13 ft (0.954 m); minimum daily, 12 ft^3/s (0.34 m^3/s) Sept. 3-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	27	28	16	17	17	15	79	412	171	23	14
2	29	28	27	16	18	17	17	68	379	172	22	13
3	28	29	26	16	17	17	15	78	433	164	21	12
4	28	30	26	16	18	17	16	83	533	130	21	12
5	28	30	25	15	19	17	16	92	637	101	20	12
6	28	30	23	15	18	17	15	99	666	76	20	12
7	25	30	21	16	18	18	15	113	675	66	19	12
8	21	29	22	16	18	19	16	128	660	66	19	13
9	23	29	21	16	18	18	15	136	689	63	19	17
10	26	29	20	16	18	17	15	134	707	62	19	15
11	26	30	19	16	16	19	15	123	740	55	18	16
12	25	29	19	15	17	17	18	128	745	55	17	14
13	25	28	19	16	17	18	18	109	713	71	16	16
14	25	27	19	16	16	18	16	97	665	53	17	16
15	25	26	19	16	16	17	17	94	607	44	22	15
16	27	25	19	17	18	17	18	94	518	38	21	15
17	29	25	19	18	18	18	18	105	470	38	18	14
18	29	25	18	17	17	18	21	103	369	33	16	14
19	28	27	18	16	18	18	26	109	321	31	14	13
20	30	26	18	16	18	16	33	123	297	39	13	23
21	32	26	18	16	18	17	42	150	293	62	13	19
22	29	26	17	17	18	15	53	233	281	60	13	15
23	29	26	18	16	17	16	73	323	275	58	13	15
24	31	26	19	16	17	18	74	431	278	56	16	14
25	33	26	17	16	17	15	65	427	262	58	16	14
26	33	27	17	17	17	14	64	361	253	56	22	14
27	31	27	17	18	17	15	63	353	224	51	16	14
28	28	27	17	18	17	15	72	423	199	29	14	14
29	27	27	19	18	18	16	83	457	165	24	13	14
30	25	27	19	18	---	15	91	387	159	24	13	14
31	26	---	17	18	---	15	---	415	---	24	14	---
TOTAL	859	824	621	509	506	521	1035	6055	13625	2030	538	435
MEAN	27.7	27.5	20.0	16.4	17.4	16.8	34.5	195	454	65.5	17.4	14.5
MAX	33	30	28	18	19	19	91	457	745	172	23	23
MIN	21	25	17	15	16	14	15	68	159	24	13	12
AC-FT	1700	1630	1230	1010	1000	1030	2050	12010	27030	4030	1070	863

CAL YR 1979 TOTAL 30867 MEAN 84.6 MAX 880 MIN 13 AC-FT 61220
WTR YR 1980 TOTAL 27558 MEAN 75.3 MAX 745 MIN 12 AC-FT 54660

06693980 MIDDLE FORK SOUTH PLATTE RIVER ABOVE FAIRPLAY, CO

LOCATION.--Lat 39°14'12", long 106°01'43", in NW¼SW¼ sec.29, T.9 S., R.77 W., Park County, Hydrologic Unit 10190001, on left bank 500 ft (152 m) above county road bridge, 1,800 ft (550 m) above mouth of Sacramento Creek, and 1.6 mi (2.6 km) northwest of Fairplay.

DRAINAGE AREA.--52.2 mi² (161.1 km²).

PERIOD OF RECORD.--March 1978 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 10,050 ft (3,063 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 530 ft³/s (15.0 m³/s) June 11, 1980, gage height, 2.61 ft (0.796 m); minimum daily, 5.0 ft³/s (0.14 m³/s) Apr. 3, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 530 ft³/s (15.0 m³/s) at 2300 June 11, gage height, 2.61 ft (0.796 m); minimum daily, 7.0 ft³/s (0.20 m³/s) Dec. 31 to Jan. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	14	9.7	7.0	8.0	8.6	8.9	20	134	165	90	39
2	19	15	9.6	7.0	8.0	8.7	8.9	19	140	163	88	41
3	20	15	10	7.0	8.0	8.7	8.9	25	156	157	82	42
4	19	15	11	7.0	8.0	8.7	8.9	31	186	157	83	43
5	19	17	13	7.0	8.0	8.7	9.0	37	213	150	85	45
6	19	19	13	7.2	8.0	8.7	9.7	48	234	145	82	42
7	18	19	13	7.4	8.0	8.7	10	45	222	136	94	40
8	17	19	13	7.6	8.0	8.7	10	38	241	126	105	39
9	19	20	13	8.0	8.0	8.7	10	37	324	116	92	37
10	19	20	13	8.0	8.0	8.7	10	40	400	106	94	35
11	18	20	12	8.0	8.0	8.8	10	45	455	101	88	34
12	17	20	12	8.0	8.0	8.8	10	42	450	94	89	33
13	18	20	11	8.0	8.0	8.8	10	37	386	92	87	32
14	18	20	10	8.0	8.0	8.8	10	39	328	95	87	32
15	18	20	10	8.0	8.0	8.8	10	39	287	120	94	32
16	17	20	10	8.0	8.0	8.8	10	35	257	119	91	34
17	16	12	10	8.0	8.4	8.8	10	35	251	119	85	35
18	15	10	10	8.0	8.6	8.8	10	36	240	116	84	29
19	15	8.9	10	8.0	8.6	8.8	10	43	240	109	66	30
20	15	8.9	10	8.0	8.6	8.8	10	50	260	106	45	30
21	15	8.9	10	8.0	8.6	8.8	11	61	252	101	38	28
22	15	9.0	10	8.0	8.6	8.8	12	78	211	93	37	24
23	15	9.5	10	8.0	8.6	8.8	13	95	196	95	40	23
24	14	9.7	10	8.0	8.6	8.8	15	102	238	94	36	21
25	14	9.7	10	8.0	8.6	8.8	15	103	283	93	35	20
26	14	9.7	9.4	8.0	8.6	8.9	15	97	283	88	33	20
27	14	9.7	9.0	8.0	8.6	8.9	16	97	245	91	49	20
28	14	9.7	8.4	8.0	8.6	8.9	20	108	223	95	50	19
29	14	9.7	8.0	8.0	8.6	8.9	21	118	194	90	46	19
30	13	9.7	7.4	8.0	---	8.9	23	116	165	88	42	18
31	12	---	7.0	8.0	---	8.9	---	128	---	84	41	---
TOTAL	511	428.1	322.5	241.2	239.6	272.3	355.3	1844	7694	3504	2158	936
MEAN	16.5	14.3	10.4	7.78	8.26	8.78	11.8	59.5	256	113	69.6	31.2
MAX	21	20	13	8.0	8.6	8.9	23	128	455	165	105	45
MIN	12	8.9	7.0	7.0	8.0	8.6	8.9	19	134	84	33	18
AC-FT	1010	849	640	478	475	540	705	3660	15260	6950	4280	1860

CAL YR 1979 TOTAL 18611.6 MEAN 51.0 MAX 307 MIN 5.0 AC-FT 36920
WTR YR 1980 TOTAL 18506.0 MEAN 50.6 MAX 455 MIN 7.0 AC-FT 36710

NOTE.--NO GAGE-HEIGHT RECORD DEC. 3 TO APR. 29.

06694100 MIDDLE FORK SOUTH PLATTE RIVER NEAR HARTSEL, CO

LOCATION.--Lat 39°01'20", long 105°45'29", in SE¼NE¼ sec.10, T.12 S., R.75 W., Park County, Hydrologic Unit 10190001, on left bank 2,500 ft (760 m) upstream from bridge on County Road 59, 2.0 mi (3.2 km) east of Hartsel.

DRAINAGE AREA.--250 mi² (648 km).

PERIOD OF RECORD.--April 1978 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 8,796 ft (2,680 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 570 ft³/s (16.1 m³/s) June 13, 1980, gage height, 3.17 ft (0.966 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Jan. 31 to Feb. 6, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 570 ft³/s (16.1 m³/s) at 0400 June 13, gage height, 3.17 ft (0.966 m); minimum daily, 8.0 ft³/s (0.23 m³/s) Feb. 8-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	10	10	10	9.0	9.0	9.0	167	105	261	108	75
2	13	10	10	10	9.0	9.0	9.0	149	119	371	95	52
3	12	10	10	10	9.0	9.0	9.0	151	138	371	93	41
4	12	10	10	10	9.0	9.0	9.0	154	164	344	92	33
5	12	10	10	10	9.0	9.0	9.0	195	204	266	91	25
6	12	10	10	10	9.0	9.0	9.0	210	239	224	88	17
7	11	10	10	10	9.0	9.0	9.0	183	257	201	85	11
8	11	10	10	10	8.0	9.0	9.0	198	264	193	87	9.3
9	12	10	10	10	8.0	9.0	9.0	154	299	173	100	27
10	12	10	10	10	8.0	9.0	9.0	116	356	169	91	36
11	11	10	10	10	8.5	9.0	9.0	104	429	193	85	32
12	11	10	10	10	9.0	9.0	9.0	96	510	197	85	27
13	12	10	10	10	9.0	9.0	9.0	81	545	178	84	23
14	12	10	10	10	9.0	9.0	9.0	76	510	172	91	22
15	12	10	10	10	9.0	9.0	9.0	90	455	157	131	22
16	12	10	10	10	9.0	9.0	9.0	122	404	154	120	22
17	12	10	10	10	9.0	9.0	9.0	141	358	127	106	20
18	13	10	10	10	9.0	9.0	9.0	116	340	114	99	20
19	12	10	10	10	9.0	9.0	11	102	344	106	94	19
20	12	10	10	10	9.0	9.0	15	83	341	99	92	15
21	12	10	10	10	9.0	9.0	22	83	338	94	87	14
22	12	10	10	9.0	9.0	9.0	30	98	324	130	85	14
23	12	10	10	9.0	9.0	9.0	35	116	310	177	85	15
24	12	10	10	9.0	9.0	9.0	34	111	301	151	86	15
25	12	10	10	9.0	9.0	9.0	30	107	298	152	97	14
26	12	10	10	9.0	9.0	9.0	32	119	309	129	107	14
27	12	10	10	9.0	9.0	9.0	35	108	315	114	92	14
28	12	10	10	9.0	9.0	9.0	100	114	285	106	86	19
29	12	10	10	9.0	9.0	9.0	150	124	240	100	81	23
30	11	10	10	9.0	---	9.0	175	123	223	93	77	22
31	10	---	10	9.0	---	9.0	---	110	---	98	80	---
TOTAL	369	300	310	300.0	257.5	279.0	831.0	3901	9324	5414	2880	712.3
MEAN	11.9	10.0	10.0	9.68	8.88	9.00	27.7	126	311	175	92.9	23.7
MAX	14	10	10	10	9.0	9.0	175	210	545	371	131	75
MIN	10	10	10	9.0	8.0	9.0	9.0	76	105	93	77	9.3
AC-FT	732	595	615	595	511	553	1650	7740	18490	10740	5710	1410

CAL YR 1979 TOTAL 19636.0 MEAN 53.8 MAX 480 MIN 1.0 AC-FT 38950
WTR YR 1980 TOTAL 24877.8 MEAN 68.0 MAX 545 MIN 8.0 AC-FT 49350

NOTE.--NO GAGE-HEIGHT RECORD NOV. 28 TO APR. 30.

06694400 SOUTH FORK SOUTH PLATTE RIVER ABOVE FAIRPLAY, CO

LOCATION.--Lat 39°04'57", long 106°02'52", in NW¼NW¼ sec.19, T.11 S., R.77 W., Park County, Hydrologic Unit 10190001, on left bank 125 ft (38 m) upstream from culvert on county road, 1,800 ft (549 m) downstream from Rough and Tumbling Creek, 10 mi (16 km) south of Fairplay.

DRAINAGE AREA.--50.3 mi^2 (130.3 km^2).

PERIOD OF RECORD.--March 1978 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 9,470 ft (2886 m), from topographic map.

REMARKS.--Records fair except those for winter period and periods of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 258 ft^3/s (7.31 m^3/s) June 11, 1980, gage height, 5.18 ft (1.579 m); minimum daily, 4.0 ft^3/s (0.11 m^3/s) Mar. 24, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 258 ft^3/s (7.31 m^3/s) at 2300 June 11, gage height, 5.18 ft (1.579 m); minimum daily, 6.0 ft^3/s (0.17 m^3/s) Jan. 21, 22, Feb 10 to Mar. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	11	9.0	6.8	6.6	6.0	6.5	7.2	110	140	44	21
2	7.2	10	9.0	6.8	6.6	6.0	6.5	7.2	125	140	42	21
3	7.5	10	9.0	6.8	6.6	6.0	6.5	7.6	140	130	41	20
4	9.1	11	9.0	6.8	6.6	6.0	6.5	8.5	150	110	40	20
5	9.3	11	9.0	6.8	6.6	6.0	6.5	9.5	190	100	39	20
6	9.7	11	9.0	6.8	6.6	6.5	6.5	11	200	94	38	19
7	9.8	11	9.0	6.8	6.6	6.5	6.5	12	210	92	37	19
8	9.7	11	9.0	6.8	6.6	6.5	6.5	11	220	88	37	19
9	9.6	11	9.0	6.8	6.2	6.5	6.5	10	230	84	38	25
10	9.8	10	9.0	6.8	6.0	6.5	6.5	11	251	82	34	23
11	9.7	10	9.0	6.8	6.0	6.5	6.5	12	245	80	33	21
12	10	9.8	9.0	6.8	6.0	6.5	6.5	11	242	76	32	19
13	10	9.2	9.0	6.8	6.0	6.5	6.5	11	238	72	31	19
14	10	9.2	9.0	6.8	6.0	6.5	6.5	11	233	69	31	18
15	10	9.2	9.0	6.8	6.0	6.5	6.5	10	225	68	36	17
16	10	9.2	9.0	6.8	6.0	6.5	6.5	11	218	66	32	17
17	10	9.2	9.0	6.8	6.0	6.5	6.5	12	211	66	29	16
18	10	9.2	9.0	6.8	6.0	6.5	6.5	13	213	64	28	16
19	11	9.2	9.0	6.8	6.0	6.5	6.5	15	209	62	27	16
20	10	9.4	9.0	6.8	6.0	6.5	6.5	19	203	62	27	16
21	11	8.8	9.0	6.0	6.0	6.5	6.5	23	197	60	26	16
22	11	9.0	9.0	6.0	6.0	6.5	6.5	29	190	60	25	16
23	11	9.0	9.0	6.4	6.0	6.5	6.5	33	180	60	25	16
24	11	9.0	9.0	6.5	6.0	6.5	6.5	32	180	58	25	16
25	11	9.0	9.0	6.6	6.0	6.5	6.5	28	170	56	26	16
26	11	9.0	8.6	6.6	6.0	6.5	6.8	31	160	50	25	16
27	11	9.0	8.2	6.6	6.0	6.5	7.0	70	150	49	24	16
28	11	9.0	7.8	6.6	6.0	6.5	7.2	90	130	47	23	15
29	11	9.0	7.3	6.6	6.0	6.5	7.2	94	130	45	22	15
30	11	9.0	6.9	6.6	---	6.5	7.2	96	130	45	22	15
31	11	---	6.8	6.6	---	6.5	---	100	---	44	22	---
TOTAL	310.8	290.4	270.6	207.1	179.0	199.0	197.9	846.0	5680	2319	961	539
MEAN	10.0	9.68	8.73	6.68	6.17	6.42	6.60	27.3	189	74.8	31.0	18.0
MAX	11	11	9.0	6.8	6.6	6.5	7.2	100	251	140	44	25
MIN	7.2	8.8	6.8	6.0	6.0	6.0	6.5	7.2	110	44	22	15
AC-FT	616	576	537	411	355	395	393	1680	11270	4600	1910	1070

CAL YR 1979 TOTAL 9088.4 MEAN 24.9 MAX 150 MIN 4.5 AC-FT 18030
WTR YR 1980 TOTAL 11999.8 MEAN 32.8 MAX 251 MIN 6.0 AC-FT 23800

NOTE.--NO GAGE-HEIGHT RECORD NOV. 22 TO JUNE 10, JUNE 25 to JULY 25.

06694700 FOURMILE CREEK NEAR FAIRPLAY, CO

LOCATION.--Lat 39°11'04", long 106°03'47", in NE¼NW¼ sec.13, T.10 S., R.78 W., Park County, Hydrologic Unit 10190001, on left bank 1.1 mi (1.8 km) upstream from Peart Upper Ditch, 4.3 mi (6.9 km) southwest of Fairplay, 4.4 mi (7.1 km) upstream from bridge on U.S. Highway 285.

DRAINAGE AREA.--12.0 mi² (31.1 km²).

PERIOD OF RECORD.--May 1978 to September 1980 (discontinued).

GAGE.--Water stage recorder. Altitude of gage is 10,250 ft (3,124 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 163 ft³/s (4.62 m³/s) June 9, 1980, gage height, 2.84 ft (0.866 m); maximum gage height, 2.85 ft (0.869 m) June 17, 1979; minimum daily discharge, 1.4 ft³/s (0.040 m³/s) Jan. 31, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 163 ft³/s (4.62 m³/s) at 2230 June 9, gage height, 2.84 ft (0.866 m); minimum daily, 1.7 ft³/s (0.048 m³/s) Jan. 20-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	3.9	3.5	2.6	2.0	2.1	2.3	3.2	33	64	21	9.3
2	6.1	3.9	3.5	2.6	2.0	2.1	2.3	3.2	35	66	20	9.3
3	5.8	3.9	3.5	2.6	2.0	2.1	2.3	3.5	44	64	20	9.1
4	5.8	3.9	3.5	2.6	2.0	2.1	2.3	4.2	56	56	19	9.0
5	5.8	4.1	3.5	2.6	2.0	2.1	2.3	4.8	67	50	18	8.9
6	5.6	4.1	3.5	2.3	2.0	2.1	2.3	5.7	101	45	17	8.8
7	5.4	4.1	3.5	2.2	2.0	2.1	2.3	6.1	88	44	16	8.6
8	5.4	4.1	3.5	2.0	2.0	2.1	2.3	5.2	93	44	17	8.8
9	5.4	4.1	3.5	2.0	2.0	2.1	2.3	5.0	122	41	18	13
10	5.0	4.1	3.5	2.0	2.0	2.1	2.3	5.7	113	40	16	14
11	4.8	3.7	3.5	2.0	2.0	2.1	2.6	5.9	129	41	15	13
12	4.8	3.7	3.5	2.0	2.0	2.3	2.6	5.4	115	39	14	12
13	4.8	3.7	3.5	2.0	2.0	2.3	2.6	5.2	106	37	14	11
14	4.7	3.7	3.5	2.0	2.0	2.3	2.6	5.1	93	36	15	10
15	4.7	3.7	3.5	2.0	2.0	2.3	2.6	5.1	86	34	19	9.8
16	4.5	3.7	3.5	2.0	2.0	2.3	2.6	4.8	71	32	15	9.6
17	4.5	3.7	3.5	2.0	2.0	2.3	2.6	4.7	72	31	14	9.3
18	4.5	3.7	3.5	2.0	2.0	2.3	2.6	5.0	76	30	13	9.0
19	4.4	3.7	3.5	1.8	2.0	2.3	2.6	6.1	81	30	13	8.7
20	4.4	3.7	3.5	1.7	2.0	2.3	2.6	7.6	73	30	12	8.7
21	4.5	3.7	3.5	1.7	2.1	2.3	2.6	9.2	71	29	12	8.5
22	4.0	3.7	3.5	1.9	2.1	2.3	2.6	12	77	29	11	8.5
23	4.0	3.7	3.5	2.0	2.1	2.3	2.6	15	77	29	11	8.3
24	4.4	3.7	3.5	2.0	2.1	2.3	2.9	14	77	28	12	8.2
25	4.1	3.7	3.5	2.0	2.1	2.3	3.1	13	79	28	12	8.1
26	4.1	3.5	3.3	2.0	2.1	2.3	3.4	14	76	26	11	8.0
27	3.8	3.5	3.2	2.0	2.1	2.3	3.4	16	72	25	11	7.9
28	4.1	3.5	3.0	2.0	2.1	2.3	3.4	18	63	24	10	7.7
29	3.8	3.5	2.8	2.0	2.1	2.3	3.4	21	58	23	9.8	7.5
30	3.9	3.5	2.7	2.0	---	2.3	3.4	26	58	23	9.8	7.3
31	3.9	---	2.6	2.0	---	2.3	---	29	---	23	9.7	---
TOTAL	147.3	113.2	105.1	64.6	58.9	69.1	79.8	288.7	2362	1141	445.3	279.9
MEAN	4.75	3.77	3.39	2.08	2.03	2.23	2.66	9.31	78.7	36.8	14.4	9.33
MAX	6.3	4.1	3.5	2.6	2.1	2.3	3.4	29	129	66	21	14
MIN	3.8	3.5	2.6	1.7	2.0	2.1	2.3	3.2	33	23	9.7	7.3
AC-FT	292	225	208	128	117	137	158	573	4690	2260	883	555

CAL YR 1979 TOTAL 4856.5 MEAN 13.3 MAX 135 MIN 1.4 AC-FT 9630
WTR YR 1980 TOTAL 5154.9 MEAN 14.1 MAX 129 MIN 1.7 AC-FT 10220

NOTE.--NO GAGE-HEIGHT RECORD DEC. 3 TO APR. 30.

06695000 SOUTH PLATTE RIVER ABOVE ELEVENMILE CANYON RESERVOIR, NEAR HARTSEL, CO

LOCATION.--Lat 38°58'03", long 105°34'51", in NE¼ sec.32, T.12 S., R.73 W., Park County, Hydrologic Unit 10190001, on left bank 200 ft (60 m) downstream from highway bridge, 2.5 mi (4.0 km) upstream from water line of Elevenmile Canyon Reservoir at elevation 8,561 ft (2,609 m), and 13 mi (21 km) southeast of Hartsel.

DRAINAGE AREA.--880 mi² (2,279 km²).

PERIOD OF RECORD.--June 1933 to current year (no winter records prior to 1940). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1630: 1958. WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 8,612.83 ft (2,625.191 m) Denver Board of Water Commissioners Datum. Prior to May 27, 1939, water-stage recorder near present site at different datum. May 27, 1939, to Nov. 4, 1961, at datum 0.46 ft (0.140 m) lower.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Antero Reservoir, capacity, 22,300 acre-ft (27.5 hm³). Many small diversions above station for irrigation of about 24,000 acres (97.1 km²). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--41 years (water years 1940-80), 78.2 ft³/s (2.215 m³/s), 56,670 acre-ft/yr (69.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred Apr. 28, 1970, gage height, 7.60 ft (2.316 m), from floodmarks; maximum daily, 3,970 ft³/s (112 m³/s) Apr. 27, 1970; minimum daily, 0.55 ft³/s (0.016 m³/s) Oct. 2-5, 9, 10, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 716 ft³/s (20.3 m³/s) at 1800 June 13, gage height, 3.35 ft (1.021 m); maximum gage height, 3.36 ft (1.024 m) at 1330 June 12; minimum daily discharge, 12 ft³/s (0.34 m³/s) Dec. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	14	13	23	26	40	47	306	205	431	198	88
2	26	17	12	24	28	38	47	349	221	586	174	70
3	24	19	15	23	30	39	45	280	238	567	161	56
4	24	19	17	23	35	42	47	271	278	529	167	46
5	23	20	18	23	33	44	50	372	315	484	166	35
6	18	23	18	25	33	44	55	369	344	431	165	31
7	18	23	20	25	33	44	65	354	372	373	147	26
8	18	30	20	24	27	42	65	402	429	353	133	21
9	17	31	18	25	23	42	65	359	489	313	146	53
10	16	22	17	25	20	42	70	264	567	296	132	75
11	16	26	17	25	25	39	60	209	624	317	135	94
12	16	26	17	25	25	39	50	168	665	337	146	70
13	17	28	15	27	28	39	55	146	700	308	147	49
14	17	28	16	28	31	41	60	137	693	276	159	45
15	18	27	18	28	35	44	70	158	684	238	192	36
16	18	27	19	26	38	45	80	292	665	234	172	30
17	17	24	20	24	38	30	70	349	640	210	146	26
18	17	26	20	25	38	35	80	303	591	199	135	24
19	18	24	20	27	40	40	110	221	526	197	124	22
20	17	16	21	26	40	40	150	185	503	191	120	16
21	23	15	22	25	40	40	230	153	509	174	116	14
22	24	15	23	23	38	42	344	158	509	205	102	14
23	30	20	23	22	38	42	317	166	503	264	94	15
24	37	25	22	25	36	41	273	153	488	250	93	16
25	30	30	23	30	33	42	258	146	486	238	102	15
26	26	33	24	28	34	41	278	155	474	223	126	15
27	22	35	25	28	40	41	292	149	455	198	108	16
28	21	31	24	33	42	41	251	153	422	182	97	16
29	20	25	23	33	41	43	245	164	393	172	98	13
30	20	15	22	32	---	43	271	172	369	166	97	14
31	16	---	22	26	---	47	---	205	---	164	93	---
TOTAL	651	714	604	806	968	1272	4100	7268	14357	9106	4191	1061
MEAN	21.0	23.8	19.5	26.0	33.4	41.0	137	234	479	294	135	35.4
MAX	37	35	25	33	42	47	344	402	700	586	198	94
MIN	16	14	12	22	20	30	45	137	205	164	93	13
AC-FT	1290	1420	1200	1600	1920	2520	8130	14420	28480	18060	8310	2100

CAL YR 1979 TOTAL 32668.0 MEAN 89.5 MAX 684 MIN 5.5 AC-FT 64800
WTR YR 1980 TOTAL 45098.0 MEAN 123 MAX 700 MIN 12 AC-FT 89450

NOTE.--NO GAGE-HEIGHT RECORD NOV. 21 TO APR. 21.

06696000 SOUTH PLATTE RIVER NEAR LAKE GEORGE, CO

LOCATION.--Lat 38°54'19", long 105°28'22", in SW¼ sec.20, T.13 S., R.72 W., Park County, Hydrologic Unit 10190001, on left bank 700 ft (210 m) downstream from Elevenmile Canyon Reservoir and 8.2 mi (13.2 km) southwest of town of Lake George.

DRAINAGE AREA.--963 mi^2 (2,494 km^2).

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 8,458 ft (2,578.0 m), from topographic map. Prior to Oct. 26, 1940, at site 1 mi (1.6 km) downstream at datum 8,423.95 ft (2,567.620 m) National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions through East and West Hoosier ditches at Hoosier Pass prior to 1941, storage in Elevenmile Canyon Reservoir (see elsewhere in this report) and Antero Reservoir, capacity, 22,300 acre-ft (27.5 hm^3), diversions for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--51 years, 73.3 ft^3/s (2.076 m^3/s), 53,110 acre-ft/yr (65.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 3,000 ft^3/s (85 m^3/s) Apr. 28, 1970, gage height, 8.34 ft (2.542 m), from floodmarks, by computation of outflow from Elevenmile Canyon Reservoir; no flow at times in January 1930, February 1931, and November 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 676 ft^3/s (19.1 m^3/s) at 1200 July 2, gage height, 4.69 ft (1.430 m); minimum daily, 12 ft^3/s (0.34 m^3/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	51	57	50	45	60	66	237	162	487	296	83
2	44	51	57	61	45	60	71	361	166	546	295	83
3	44	51	56	61	45	59	79	332	173	467	296	83
4	44	51	55	61	45	60	93	277	185	485	229	83
5	44	51	54	60	45	60	93	245	199	490	170	78
6	44	51	54	60	45	60	84	196	220	478	170	74
7	44	51	54	60	45	60	66	134	236	459	171	74
8	44	36	54	60	45	60	58	93	263	487	158	74
9	44	24	54	52	45	60	59	118	307	471	150	74
10	44	21	54	48	52	60	59	147	359	436	149	74
11	44	21	54	48	55	60	59	159	426	437	151	74
12	44	22	54	48	59	59	69	170	486	488	151	38
13	44	22	54	48	60	59	76	161	544	478	152	12
14	44	22	54	40	60	59	77	159	601	436	152	14
15	44	21	54	36	60	59	77	161	628	395	182	14
16	44	22	54	36	60	59	77	178	646	360	165	14
17	44	26	54	36	60	59	78	206	655	332	125	13
18	44	30	54	36	60	59	79	229	657	303	104	13
19	45	30	54	36	60	59	98	237	637	285	100	27
20	45	49	46	41	60	59	144	229	610	266	78	44
21	45	61	33	45	60	59	202	218	588	252	53	44
22	45	47	29	45	60	58	319	208	570	240	35	43
23	45	33	29	45	60	58	395	202	559	270	31	42
24	45	30	27	45	60	58	479	192	544	325	46	43
25	46	30	25	45	60	58	557	181	532	338	65	43
26	62	39	25	44	60	59	548	168	524	323	76	42
27	67	53	25	45	60	58	382	164	513	312	83	42
28	67	57	25	45	60	58	310	159	490	302	83	42
29	67	57	25	45	60	58	201	160	469	296	83	42
30	67	57	25	45	---	59	136	155	447	295	83	41
31	59	---	33	45	---	59	---	159	---	293	83	---
TOTAL	1497	1167	1382	1472	1591	1832	5091	5995	13396	11832	4165	1467
MEAN	48.3	38.9	44.6	47.5	54.9	59.1	170	193	447	382	134	48.9
MAX	67	61	57	61	60	60	557	361	657	546	296	83
MIN	44	21	25	36	45	58	58	93	162	240	31	12
AC-FT	2970	2310	2740	2920	3160	3630	10100	11890	26570	23470	8260	2910

CAL YR 1979 TOTAL 35909.0 MEAN 98.4 MAX 619 MIN 3.7 AC-FT 71230
WTR YR 1980 TOTAL 50887.0 MEAN 139 MAX 657 MIN 12 AC-FT 100900

06696980 TARRYALL CREEK AT UPPER STATION, NEAR COMO, CO

LOCATION.--Lat 39°20'23", long 105°54'42", in NE¼SW¼ sec.20, T.8 S., R.76 W., Park County, Hydrologic Unit 10190001, on left bank 150 ft (46 m) upstream from culvert on county road 1.8 mi (2.9 km) northwest of Como. Prior to July 15, 1980, at site 250 ft (76 m) downstream.

DRAINAGE AREA.--23.7 mi² (61.4 km²).

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,935 ft (3,028 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined, maximum daily, 170 ft³/s (4.81 m³/s) June 12, 1980; minimum daily, 2.0 ft³/s (0.057 m³/s) Jan. 31, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined, maximum daily, 170 ft³/s (4.81 m³/s) June 12; minimum daily, 2.3 ft³/s (0.065 m³/s) Apr. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	6.2	5.4	4.5	4.5	6.0	4.5	6.3	64	94	25	13
2	8.2	6.2	5.4	4.5	4.5	6.0	4.0	6.0	70	80	24	13
3	7.9	6.6	5.4	4.5	4.5	6.0	4.0	7.0	78	70	23	12
4	7.9	7.0	5.4	4.5	4.5	6.0	4.0	8.5	90	60	22	12
5	7.7	7.1	5.4	4.5	4.5	6.0	4.0	10	100	52	22	12
6	7.7	7.2	5.4	4.5	4.3	6.0	3.5	12	100	45	21	12
7	7.7	7.2	5.4	4.5	4.0	6.0	3.0	13	100	40	20	12
8	7.7	7.2	5.6	4.5	3.8	6.0	2.8	11	100	40	23	12
9	7.5	7.2	5.6	4.5	3.5	6.0	2.8	12	115	40	21	17
10	7.5	7.2	5.6	4.5	3.5	6.0	2.8	12	130	46	19	17
11	7.5	7.2	5.6	4.5	3.5	5.4	2.8	14	150	54	19	16
12	7.5	7.2	5.6	4.5	3.5	5.0	2.8	14	170	64	18	14
13	7.5	7.0	5.6	4.5	3.5	5.0	2.8	15	165	56	19	13
14	7.5	7.0	5.6	4.5	3.5	5.0	2.8	16	155	45	19	13
15	7.2	7.0	5.6	4.5	3.5	5.0	2.8	15	150	45	24	12
16	7.2	7.0	5.6	4.5	3.7	5.0	2.4	13	145	44	20	13
17	7.2	6.2	5.6	4.5	3.8	5.0	2.3	13	135	41	19	12
18	7.2	5.6	5.6	4.5	4.0	5.0	3.2	13	135	40	18	12
19	7.2	5.6	5.6	4.5	4.0	5.0	3.7	17	130	39	17	11
20	7.2	5.6	5.6	4.5	4.5	5.0	4.8	22	125	38	17	11
21	7.5	5.6	5.6	4.5	5.0	5.0	5.4	31	120	37	17	11
22	7.2	5.6	5.6	4.5	6.0	5.0	6.0	48	120	36	17	11
23	7.2	5.6	5.6	4.5	6.0	5.0	5.2	71	115	36	17	11
24	7.5	5.6	5.6	4.5	6.0	5.0	5.0	78	110	35	17	11
25	7.2	5.6	5.2	4.5	6.0	5.0	4.5	74	110	35	18	11
26	7.2	5.6	4.8	4.5	6.0	5.0	5.0	67	110	31	17	10
27	7.0	5.6	4.5	4.5	6.0	5.0	4.8	66	110	29	16	10
28	7.0	5.6	4.5	4.5	6.0	5.0	5.2	68	110	28	15	10
29	7.0	5.4	4.5	4.5	6.0	5.0	6.3	67	110	27	14	10
30	6.8	5.4	4.5	4.5	---	5.0	6.5	66	110	27	14	9.8
31	6.2	---	4.5	4.5	---	5.0	---	65	---	26	14	---
TOTAL	228.7	190.1	165.5	139.5	132.1	165.4	119.7	950.8	3532	1380	586	363.8
MEAN	7.38	6.34	5.34	4.50	4.56	5.34	3.99	30.7	118	44.5	18.9	12.1
MAX	8.2	7.2	5.6	4.5	6.0	6.0	6.5	78	170	94	25	17
MIN	6.2	5.4	4.5	4.5	3.5	5.0	2.3	6.0	64	26	14	9.8
AC-FT	454	377	328	277	262	328	237	1890	7010	2740	1160	722

CAL YR 1979 TOTAL 7389.1 MEAN 20.2 MAX 132 MIN 2.0 AC-FT 14660
WTR YR 1980 TOTAL 7953.6 MEAN 21.7 MAX 170 MIN 2.3 AC-FT 15780

NOTE.--NO GAGE-HEIGHT RECORD OCT. 31 TO APR. 15, MAY 27 to JULY 14.

06697450 MICHIGAN CREEK ABOVE JEFFERSON, CO

LOCATION.--Lat 39°21'32", long 105°50'27", in SW¼NW¼ sec.13, T.8 S., R.76 W., Park County, Hydrologic Unit 10190001, on left bank 1.1 mi (1.8 km) upstream from bridge on U.S. Highway 285 and 2.6 mi (4.2 km) southwest of Jefferson.

DRAINAGE AREA.--23.1 mi² (59.8 km²).

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,521 ft (2,902 m), from topographic map.

REMARKS.--Records good except those for winter period and those for period of backwater from beaver dam Oct. 11 to Nov. 1, Aug. 15 to Sept. 30, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 121 ft³/s (3.43 m³/s) June 10, 1979, gage height, 2.11 ft (0.643 m); minimum daily, 1.4 ft³/s (0.040 m³/s) Feb. 24, 25, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 86 ft³/s (2.44 m³/s) at 0200 June 11, gage height, 1.74 ft (0.530 m); minimum daily, 1.4 ft³/s (0.040 m³/s) Feb. 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	3.8	2.6	3.0	2.5	1.5	2.4	9.9	21	48	15	6.7
2	4.2	3.8	2.6	3.0	2.5	1.5	2.6	14	22	47	13	6.4
3	4.0	4.1	2.6	3.0	2.5	1.5	3.0	28	22	39	13	5.9
4	3.9	4.4	2.6	3.0	2.5	1.5	3.0	28	28	33	12	5.4
5	4.0	4.5	2.6	3.0	2.5	1.5	3.0	30	36	28	12	5.4
6	4.0	4.5	2.6	3.0	2.3	1.5	3.0	32	39	24	12	5.4
7	4.0	4.5	2.6	3.0	2.2	1.5	3.0	28	39	22	12	5.4
8	4.2	4.5	2.6	3.0	2.1	1.5	3.0	24	45	22	16	5.7
9	4.2	4.5	2.6	3.0	2.0	1.5	3.0	22	59	17	13	8.2
10	4.0	4.5	2.6	3.0	2.0	1.5	3.2	22	67	18	11	8.8
11	3.9	4.0	2.6	3.0	2.0	1.7	3.7	19	78	24	10	7.5
12	3.5	3.5	2.6	3.0	2.0	1.8	4.5	18	77	28	9.6	7.0
13	3.5	3.5	2.8	3.0	2.0	1.8	4.5	15	76	28	9.6	6.7
14	3.5	3.5	3.0	3.0	2.0	1.8	4.5	16	69	26	11	6.7
15	3.5	3.5	3.0	3.0	2.0	1.8	4.5	18	60	20	17	6.2
16	3.5	3.5	3.0	3.2	2.0	1.8	4.5	16	60	17	13	6.7
17	3.5	3.5	3.0	3.5	2.0	1.8	5.2	18	68	16	11	6.4
18	3.5	3.5	3.0	3.5	2.0	1.8	6.0	16	54	14	9.9	5.9
19	3.5	3.5	3.0	3.5	2.0	1.8	6.0	18	55	15	9.2	5.7
20	3.5	3.5	3.0	3.5	2.0	1.9	6.0	17	51	14	9.2	5.7
21	3.5	3.0	3.0	3.5	1.8	1.9	7.2	20	51	12	9.6	5.7
22	3.5	3.0	3.0	3.5	1.6	1.9	8.0	22	47	12	8.5	4.2
23	3.5	3.0	3.0	3.5	1.5	1.9	8.0	26	41	14	9.2	2.7
24	3.5	3.0	3.0	3.5	1.4	1.9	9.0	26	50	14	9.2	2.6
25	3.5	3.0	3.0	3.5	1.4	1.9	11	20	50	14	9.9	2.4
26	3.8	2.6	3.0	3.5	1.5	1.9	15	18	50	12	9.9	2.2
27	3.8	2.6	3.0	3.5	1.5	1.9	16	17	50	10	8.8	2.6
28	3.8	2.6	3.0	3.0	1.5	1.9	17	18	49	14	8.2	2.7
29	3.8	2.6	3.0	2.7	1.5	1.9	17	20	48	16	7.2	2.4
30	3.8	2.6	3.0	2.5	---	2.0	18	21	48	16	7.2	1.9
31	3.8	---	3.0	2.5	---	2.1	---	21	---	16	7.2	---
TOTAL	116.2	106.6	88.0	97.4	56.8	54.2	204.8	637.9	1510	650	333.4	157.2
MEAN	3.75	3.55	2.84	3.14	1.96	1.75	6.83	20.6	50.3	21.0	10.8	5.24
MAX	4.2	4.5	3.0	3.5	2.5	2.1	18	32	78	48	17	8.8
MIN	3.5	2.6	2.6	2.5	1.4	1.5	2.4	9.9	21	10	7.2	1.9
AC-FT	230	211	175	193	113	108	406	1270	3000	1290	661	312

CAL YR 1979 TOTAL 4495.4 MEAN 12.3 MAX 80 MIN 1.5 AC-FT 8920
WTR YR 1980 TOTAL 4012.5 MEAN 11.0 MAX 78 MIN 1.4 AC-FT 7960

NOTE.--NO GAGE-HEIGHT RECORD NOV. 2 TO APR. 29.

06698000 JEFFERSON CREEK NEAR JEFFERSON, CO

LOCATION.--Lat 39°23'34", long 105°48'38", in SE¼SE¼ sec.31, T.7 S., R.75 W., Park County, Hydrologic Unit 10190001, on right bank 1.2 mi (1.9 km) northwest of Jefferson and 1.3 mi (2.1 km) upstream from bridge on U.S. Highway 285.

DRAINAGE AREA.--11.8 mi² (30.6 km²).

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 9,600 ft (2,926 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48 ft³/s (1.36 m³/s) June 24, 1978, gage height, 1.38 ft (0.421 m); maximum gage height, 1.48 ft (0.451 m) June 11, 1980; no flow Jan. 28 to Apr. 5, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 47 ft³/s (1.33 m³/s) at 2230 June 11, gage height, 1.48 ft (0.451 m); minimum daily, 2.0 ft³/s (0.057 m³/s) Dec. 28-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	2.2	2.4	2.3	2.6	2.8	2.5	5.4	22	22	11	25
2	3.0	2.5	2.4	2.4	2.7	2.8	2.5	6.4	15	27	8.9	24
3	3.1	2.8	2.4	2.4	2.7	2.8	2.5	7.8	16	21	8.1	24
4	2.9	3.2	2.4	2.4	2.7	2.8	2.5	8.6	18	18	8.0	23
5	2.9	3.4	2.4	2.4	2.7	2.8	2.5	9.5	22	17	8.0	14
6	2.9	3.5	2.4	2.4	2.7	2.8	2.5	11	24	14	8.0	11
7	2.9	3.5	2.4	2.4	2.7	2.8	2.5	11	22	14	8.0	10
8	2.9	3.5	2.4	2.7	2.7	2.8	2.5	9.8	27	16	12	11
9	3.1	3.5	2.4	2.7	2.7	2.8	2.5	9.5	28	15	11	14
10	2.7	3.5	2.4	2.7	2.7	2.8	2.6	9.2	30	17	9.2	13
11	2.7	3.5	2.4	2.7	2.7	2.8	2.6	9.8	38	23	11	11
12	2.2	2.8	2.4	2.7	2.7	2.8	2.6	9.5	40	27	27	10
13	2.2	2.9	2.4	2.7	2.7	2.8	2.6	8.9	40	25	30	12
14	2.2	3.0	2.4	2.7	2.7	2.8	2.6	7.8	38	23	31	13
15	2.4	3.2	2.4	2.7	2.7	2.8	2.6	5.4	37	19	36	12
16	2.2	2.6	2.4	2.5	2.7	2.8	2.6	5.2	34	16	37	14
17	2.2	2.5	2.4	2.5	2.7	2.8	2.6	5.2	32	12	36	13
18	2.2	2.5	2.4	2.5	2.7	2.8	2.6	4.5	31	12	35	14
19	2.2	2.6	2.4	2.5	2.7	2.8	2.6	5.4	30	10	33	14
20	2.2	2.7	2.4	2.3	2.7	2.8	2.6	6.7	30	8.6	31	15
21	2.1	2.5	2.4	2.5	2.7	2.8	2.8	8.9	29	8.1	30	14
22	2.1	2.3	2.4	2.5	2.7	2.8	3.1	13	28	7.8	29	14
23	2.1	2.3	2.4	2.5	2.7	2.8	3.7	17	27	11	29	14
24	2.4	2.3	2.4	2.5	2.8	2.8	4.0	20	28	11	30	12
25	2.4	2.3	2.4	2.5	2.8	2.8	4.7	20	28	11	30	11
26	2.4	2.3	2.3	2.5	2.8	2.8	5.2	19	28	9.8	29	11
27	2.4	2.3	2.1	2.5	2.8	2.8	5.2	19	27	8.4	27	11
28	2.4	2.4	2.0	2.5	2.8	2.8	5.2	22	27	7.8	26	11
29	2.4	2.4	2.0	2.5	2.8	2.5	5.2	24	25	7.8	26	11
30	2.2	2.4	2.0	2.5	---	2.5	5.2	24	23	7.2	26	10
31	2.2	---	2.0	2.5	---	2.5	---	24	---	10	26	---
TOTAL	77.2	83.4	72.4	78.1	78.8	85.9	95.4	367.5	844	456.5	707.2	416
MEAN	2.49	2.78	2.34	2.52	2.72	2.77	3.18	11.9	28.1	14.7	22.8	13.9
MAX	3.1	3.5	2.4	2.7	2.8	2.8	5.2	24	40	27	37	25
MIN	2.1	2.2	2.0	2.3	2.6	2.5	2.5	4.5	15	7.2	8.0	10
AC-FT	153	165	144	155	156	170	189	729	1670	905	1400	825

CAL YR 1979 TOTAL 2550.90 MEAN 6.99 MAX 38 MIN .00 AC-FT 5060
WTR YR 1980 TOTAL 3362.40 MEAN 9.19 MAX 40 MIN 2.0 AC-FT 6670

NOTE.--NO GAGE-HEIGHT RECORD NOV. 1 TO APR. 30.

06698500 TARRYALL CREEK NEAR JEFFERSON, CO

LOCATION.--Lat 39°17'42", long 105°43'05", in NE¼SE¼ sec.1, T.9 S., R.75 W., Park County, Hydrologic Unit 10190001, on left bank 0.6 mi (1.0 km) downstream from Michigan Creek and 7.2 mi (11.6 km) southeast of Jefferson.

DRAINAGE AREA.--183 mi² (474 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1910 to June 1911 (discharge measurements and gage heights only, published in WSP 456). July 1912 to October 1917 (monthly discharge only, published in WSP 1310). July 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,050 ft (2,758 m), from topographic map. October 1910 to June 1911, nonrecording gage 1.0 mi (2.6 km) downstream from present site at different datum. April 1916 to October 1917, nonrecording gage 60 ft (18 m) upstream from previous site at same datum.

REMARKS.--Records good except those for winter period, which are poor. Diversions for irrigation of a few acres of hay meadows above gage.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--8 years (1913-17, 1978-80) 46.5 ft³/s (1.317 m³/s), 33,690 acre-ft/yr (41.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 1,320 ft³/s (37.4 m³/s) July 9, 1917, gage height, 4.1 ft (1.2 m), site and datum then in use; maximum gage height, 6.70 ft (2.04 m) June 7, 1979, backwater from debris; present site and datum; minimum daily discharge, 0.50 ft³/s (0.014 m³/s) Jan. 2, Feb. 11 to Mar. 7, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 343 ft³/s (9.71 m³/s) June 12, gage height, 3.97 ft (1.21 m); minimum daily, 4.5 ft³/s (0.127 m³/s) Feb. 10.

REVISIONS.--Revised daily discharges, in cubic feet per second, for June 1979 are given below. These figures supersede those published in WDR CO-79-1.

June 1	160	June 11	468	June 21	151
2	105	12	342	22	132
3	84	13	220	23	135
4	72	14	200	24	147
5	72	15	214	25	145
6	80	16	221	26	143
7	211	17	218	27	135
8	553	18	204	28	126
9	479	19	196	29	126
10	442	20	178	30	125

Month	Total	Mean	Max	Min	Ac-ft
June 1979	6,084	203	553	72	12,070
Wtr Yr 1979	15,126.6	41.4	553	.50	29,990

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	6.5	5.5	7.5	6.5	9.0	9.5	117	97	154	48	36
2	14	7.0	6.5	7.0	7.0	8.5	9.5	96	103	211	40	34
3	13	7.5	7.5	6.5	8.0	9.0	9.0	118	103	178	36	33
4	12	8.5	8.5	6.5	9.0	10	9.5	118	103	143	40	31
5	12	9.0	9.0	7.0	8.5	12	9.5	97	116	108	35	28
6	12	8.0	9.0	8.0	8.0	12	10	147	143	87	36	22
7	12	8.0	9.5	7.5	8.0	12	11	142	153	80	35	21
8	12	8.5	9.5	6.5	6.5	11	11	225	188	103	56	21
9	12	8.5	8.5	7.5	5.5	11	11	139	235	83	97	36
10	13	8.0	8.0	7.0	4.5	11	12	89	273	72	45	39
11	12	7.5	8.0	7.0	5.5	10	11	81	301	78	36	36
12	12	7.5	7.5	7.0	6.0	10	10	80	311	101	44	26
13	11	7.5	6.5	8.0	6.5	10	11	68	313	89	51	25
14	12	8.0	5.5	7.5	7.5	11	12	71	297	114	55	25
15	11	8.0	5.5	7.5	8.0	12	14	127	258	84	72	26
16	10	8.5	6.0	7.0	8.5	12	16	165	231	63	66	22
17	10	9.5	7.0	6.5	8.5	6.5	15	196	225	53	61	24
18	11	9.0	6.5	7.0	8.0	7.5	18	118	221	47	58	22
19	11	8.5	6.5	7.5	9.0	8.5	30	95	220	47	55	22
20	11	7.5	6.5	7.0	9.0	8.5	45	76	206	41	52	21
21	13	7.0	7.0	6.0	9.0	8.5	70	71	207	33	50	22
22	8.0	6.0	6.5	5.5	8.5	9.0	100	82	199	42	49	21
23	9.0	5.5	7.5	5.0	8.5	9.0	71	112	183	43	47	21
24	11	6.0	6.5	6.0	8.0	8.5	47	116	167	45	48	19
25	14	6.5	7.0	7.0	7.0	9.0	38	92	153	50	55	18
26	13	7.0	7.5	6.5	7.0	8.5	42	86	156	47	56	18
27	12	8.0	7.0	6.5	8.0	8.5	53	77	153	36	48	17
28	10	7.0	7.0	8.0	9.0	8.5	117	81	135	33	44	18
29	12	6.0	6.0	8.5	9.5	9.0	160	85	125	41	40	17
30	9.7	5.0	5.5	8.0	---	9.0	179	90	125	38	40	16
31	8.0	---	6.0	6.5	---	9.5	---	96	---	46	40	---
TOTAL	357.7	225.0	220.5	216.5	222.5	298.5	1161.0	3353	5700	2390	1535	737
MEAN	11.5	7.50	7.11	6.98	7.67	9.63	38.7	108	190	77.1	49.5	24.6
MAX	15	9.5	9.5	8.5	9.5	12	179	225	313	211	97	39
MIN	8.0	5.0	5.5	5.0	4.5	6.5	9.0	68	97	33	35	16
AC-FT	709	446	437	429	441	592	2300	6650	11310	4740	3040	1460

CAL YR 1979 TOTAL 15243.20 MEAN 41.8 MAX 553 MIN .50 AC-FT 30230
WTR YR 1980 TOTAL 16416.70 MEAN 44.9 MAX 313 MIN 4.5 AC-FT 32560

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 01...	0935	E5.9	200	7.6	.0	.80	10.2	17	K1	K1
DEC 06...	0935	8.2	186	7.3	.0	--	10.1	8	<1	K9
JAN 17...	1010	3.5	175	7.1	.0	--	8.4	16	<1	K8
FEB 27...	1730	3.0	190	7.5	.0	--	10.1	5	--	--
MAR 28...	1000	31	231	7.6	.0	--	18.5	17	--	--
APR 15...	1005	E3.0	200	7.4	1.0	1.5	10.0	18	<1	48
MAY 29...	1345	E103	200	7.5	2.0	--	10.2	32	K2	K1
JUN 18...	0945	220	220	7.7	12.0	3.7	8.7	21	K35	K33
JUL 25...	1000	30	180	7.6	9.0	--	7.5	21	K3	K2
AUG 22...	1130	20	110	7.8	14.0	--	10.3	13	K3	K2
SEP 17...	1030	25	100	7.6	9.0	--	9.8	15	K4	<1

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV 01...	94	14	28	5.8	5.9	.3	1.1	80	20	1.1
DEC 06...	83	5	25	4.9	4.7	.2	1.2	78	18	1.0
JAN 17...	80	6	24	4.7	4.9	.3	1.1	74	13	.6
FEB 27...	100	16	31	5.5	3.1	.1	.9	84	19	.5
MAR 28...	95	15	28	6.1	7.5	.3	1.5	80	30	1.9
APR 15...	110	29	32	8.0	13	.6	2.4	84	40	2.6
MAY 29...	110	18	31	8.4	11	.5	1.7	94	33	3.0
JUN 18...	99	1	29	6.4	5.2	.2	.9	98	7.2	.5
JUL 25...	71	9	23	3.3	5.1	.3	1.9	62	14	6.2
AUG 22...	51	--	15	3.2	4.5	.3	1.6	--	9.5	4.2
SEP 17...	61	5	18	3.8	3.8	.2	1.3	56	11	2.7

E ESTIMATED.

K BASED ON NON-IDEAL COLONY COUNT.

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
NOV 01...	.1	9.6	133	<130	.18	E2.12	.00	.00	.52
DEC 06...	.1	9.9	129	112	.18	2.88	.03	.03	.24
JAN 17...	.1	10	119	--	.16	1.12	.04	.00	.84
FEB 27...	.1	11	167	122	.23	1.35	.06	.04	.00
MAR 28...	.2	9.2	150	133	.20	12.6	.07	.04	.37
APR 15...	.2	10	168	--	.23	E1.36	.02	.04	.67
MAY 29...	.2	12	175	157	.24	E48.7	.02	.06	.82
JUN 18...	.4	11	143	121	.19	84.9	.01	.13	1.2
JUL 25...	.1	7.5	149	99.0	.20	12.1	.00	.19	.73
AUG 22...	.2	6.6	127	--	.17	6.86	.00	.00	1.0
SEP 17...	.2	7.6	78.0	82.0	.11	5.26	.00	.12	.48

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	BORON, DIS-SOLVED (UG/L AS B)	IRON, DIS-SOLVED (UG/L AS FE)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
NOV 01...	.52	.52	.01	.01	10	120	4.4	.1	64
DEC 06...	.27	.30	.01	.01	2	120	2.0	.1	300
JAN 17...	.84	.88	.05	.01	10	120	3.7	--	140
FEB 27...	.04	.10	.03	.00	10	90	--	.6	390
MAR 28...	.41	.48	.02	.01	20	120	--	.3	110
APR 15...	.71	.73	.04	.01	40	160	9.6	.4	--
MAY 29...	.88	.90	.04	.01	70	80	12	--	130
JUN 18...	1.30	1.3	.04	.01	40	110	11	.2	220
JUL 25...	.92	.92	.02	.02	30	110	4.8	18	370
AUG 22...	1.00	1.0	.04	.03	170	120	5.5	--	120
SEP 17...	.60	.60	.04	.05	30	150	5.1	.6	450

E ESTIMATED.

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	BARIUM, RECOV. FM BOTTOM MATERIAL (UG/G AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BERYLLIUM, DISSOLVED (UG/L AS BE)	BERYLLIUM, RECOV. FM BOTTOM MATERIAL (UG/G)
NOV 01...	0935	10	1	1	7	300	50	170	0	<1	0
JAN 17...	1010	0	--	1	--	--	50	--	--	<1	--
APR 15...	1005	10	0	0	1	100	70	30	0	<1	0
JUN 18...	0945	0	0	1	3	0	40	42	0	<1	0

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, DISSOLVED (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)
NOV 01...	0	<1	0	0	0	7	0	<3	10	<10	10
JAN 17...	--	<1	--	--	0	--	--	<3	--	<10	--
APR 15...	0	0	0	0	0	3	1	<3	0	<10	4
JUN 18...	0	2	0	0	0	8	0	3	0	<10	8

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)
NOV 01...	4	0	5	0	11	30	24	290	.0	.0	.0
JAN 17...	--	0	--	--	7	--	19	--	--	.0	--
APR 15...	0	0	0	30	<4	20	18	140	.0	.0	.0
JUN 18...	2	--	10	10	4	40	11	160	.0	.0	.0

DATE	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	MOLYBDENUM, RECOV. FM BOTTOM MATERIAL (UG/G)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)
NOV 01...	0	<10	0	3	0	10	0	0	0	210	<6.0
JAN 17...	--	<10	--	--	0	--	--	0	--	170	<6.0
APR 15...	1	<10	3	4	0	10	0	0	0	280	<6.0
JUN 18...	1	13	2	5	0	0	0	0	0	270	<10

DATE	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)
NOV 01...	0	<3	30	1.3	<.3	1.9	<.4	1.7	<.4	1.6	<.4
JAN 17...	--	4	--	--	--	--	--	--	--	--	--
APR 15...	0	<3	18	2.3	<.3	3.4	<.4	3.3	<.4	3.3	<.4
JUN 18...	30	<3	30	<1.8	.5	<2.6	.8	1.7	1.1	1.6	1.1

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 1,79	DEC 6,79	JAN 17,80	FEB 27,80	MAR 28,80	APR 15,80
TIME	0935	0935	1010	1730	1000	1100
TOTAL CELLS/ML	64	300	140	390	110	460
DIVERSITY: DIVISION	1.0	0.7	0.5	0.0	0.4	1.0
.CLASS	1.0	0.7	0.5	0.0	0.4	1.0
..ORDER	1.5	1.3	0.8	0.0	0.4	1.0
...FAMILY	1.5	2.6	2.7	0.0	1.5	2.6
....GENUS	1.5	2.8	2.8	0.0	1.5	2.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...OOCYSTACEAE												
....ANKISTRODESMUS	26#	40	--	-	5	4	--	-	10	9	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-	--	-	5	1
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	13#	20	45#	15	10	7	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	--	-	--	-	--	-	--	-	76#	16
...CYMBELLACEAE												
....CYMBELLA	--	-	--	-	5	4	--	-	--	-	5	1
....EPITHEMIA	--	-	5	2	15	11	--	-	--	-	--	-
...DIATOMACEAE												
....DIATOMA	--	-	--	-	15	11	--	-	--	-	20	4
...FRAGILARIACEAE												
....FRAGILARIA	--	-	45#	15	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	20	7	--	-	--	-	--	-	25	5
...GOMPHONEMATACEAE												
....GOMPHONEMA	--	-	15	5	20	15	--	-	70#	64	86#	18
...NAVICULACEAE												
....NAVICULA	--	-	45#	15	40#	30	--	-	20#	18	35	8
....PINNULARIA	--	-	--	-	--	-	--	-	--	-	--	-
...NITZSCHIACEAE												
....NITZSCHIA	26#	40	60#	20	20	15	--	-	10	9	40	9
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-	--	-
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	--	-	--	-	--	-	170#	37
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	--	-	390#	100	--	-	--	-
....SCHIZOTHRIX	--	-	60#	20	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
.EUGLENOPHYCEAE												
..EUGLENALES												
...EUGLENACEAE												
....EUGLENA	--	-	--	-	5	4	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06698500 TARRYALL CREEK NEAR JEFFERSON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	MAY 29,80 1340	JUN 18,80 0945	JUL 25,80 1000	AUG 22,80 1130	SEP 17,80 1030
TOTAL CELLS/ML	130	220	370	120	450
DIVERSITY: DIVISION	0.0	0.5	0.8	0.0	1.1
.CLASS	0.0	0.5	0.8	0.0	1.1
..ORDER	0.0	1.0	1.1	0.0	1.5
...FAMILY	2.2	1.3	1.3	0.8	1.8
....GENUS	2.4	1.3	1.3	0.8	1.8

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	--	-	--	*	--	-	--	*
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	26	12	--	-	--	-	13	3
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	*	26	12	13	3	--	-	--	*
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	14	11	--	-	13	3	--	-	--	*
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	13	3	--	-	--	-
....EPITHEMIA	--	-	--	*	--	-	--	*	--	*
...DIATOMACEAE										
....DIATOMA	--	*	--	*	--	*	--	*	--	*
...FRAGILARIACEAE										
....FRAGILARIA	--	-	160#	71	--	*	--	-	51	11
....SYNEDRA	14	11	--	*	--	*	--	-	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	29#	22	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	14	11	--	-	13	3	26#	22	--	-
....PINNULARIA	14	11	--	-	--	-	--	-	--	-
...NITZSCHIACEAE										
....NITZSCHIA	43#	33	13	6	--	-	90#	78	140#	31
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	--	-	13	3	--	-	39	9
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	300#	79	--	-	210#	46
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	--	-	--	-	--	-
....SCHIZOTHRIX	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	13	3	--	-	--	-

NOTE: # - DOMINANT ORGANISM, EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06700500 GOOSE CREEK ABOVE CHEESMAN LAKE, CO
(Known also as Lost Park Creek)

LOCATION.--Lat 39°12'32", long 105°18'11", in sec.2, T.10 S., R.71 W., Jefferson County, Hydrologic Unit 10190002, on right bank 1.0 mi (1.6 km) upstream from water line of Cheesman Lake at elevation 6,842 ft (2,085.4 m) and 1.7 mi (2.7 km) west of Cheesman Dam.

DRAINAGE AREA.--86.6 mi² (224 km²).

PERIOD OF RECORD.--August to December 1899 (published as "at Lake Cheesman"), October 1924 to current year (no winter records in some years). Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area. WSP 1913: 1953.

GAGE.--Water-stage recorder and compound rectangular weir. Altitude of gage is 6,910 ft (2,106 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Small diversions above station for irrigation of about 100 acres (404,700 m²). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--43 years (water years 1925-30, 1936, 1940-41, 1944-47, 1951-80), 28.5 ft³/s (0.807 m³/s), 20,650 acre-ft/yr (25.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 487 ft³/s (13.8 m³/s) June 9, 1957, gage height, 4.11 ft (1.253 m), from rating curve extended above 170 ft³/s (4.8 m³/s); maximum gage height, 4.57 ft (1.393 m), May 30, 1942; minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 110 ft³/s (3.1 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 11	0500	176	4.98	2.17	0.661	July 2	1800	175	4.96	2.22	0.677
May 25	1900	*338	9.57	3.13	0.954						

Minimum daily discharge, 5.5 ft³/s (0.156 m³/s) Feb. 9

1	11	6.5	6.5	7.0	8.5	7.0	7.5	123	321	62	23	14
2	11	7.5	6.5	7.5	9.0	7.0	8.0	118	317	123	23	13
3	10	8.5	7.0	7.0	9.0	7.5	8.0	117	312	88	20	13
4	10	9.0	7.5	7.0	9.5	8.0	8.5	110	312	66	19	13
5	9.8	9.0	8.0	8.0	8.5	8.0	9.0	110	312	55	18	12
6	9.2	8.5	7.5	9.0	8.5	8.5	10	114	306	49	18	12
7	9.5	9.0	7.5	8.5	9.0	8.5	10	138	299	49	17	12
8	9.8	9.5	7.5	8.5	6.0	8.0	9.0	152	286	59	18	12
9	10	10	7.5	9.0	5.5	8.0	9.5	165	281	49	20	12
10	10	9.0	8.0	9.5	6.5	8.5	10	163	271	47	19	16
11	10	9.5	7.5	9.0	6.5	8.5	10	165	256	49	17	14
12	10	9.0	6.5	8.5	7.5	8.5	9.0	158	237	66	18	12
13	9.0	8.5	7.0	9.5	7.5	8.5	9.0	140	218	49	16	11
14	9.5	9.0	7.0	9.5	8.0	9.0	9.5	128	201	46	18	10
15	9.5	9.0	7.5	9.5	8.0	9.0	10	126	182	39	30	9.8
16	9.5	9.5	7.5	8.5	7.5	9.0	11	128	169	35	28	10
17	9.5	10	7.0	8.5	8.0	8.0	10	122	158	33	19	9.5
18	9.5	9.5	7.5	8.5	8.0	8.5	11	113	147	31	17	9.0
19	9.5	9.0	7.5	7.5	8.5	9.0	13	124	138	30	16	8.2
20	9.2	8.0	7.5	7.5	8.5	8.5	20	135	131	29	16	8.0
21	11	7.0	7.5	8.0	8.5	9.0	32	156	123	31	15	8.0
22	11	6.0	7.0	8.0	8.0	9.0	42	212	115	32	14	7.8
23	11	6.0	7.0	7.5	8.0	8.5	51	249	106	31	14	8.0
24	11	7.0	6.5	8.0	7.0	8.5	54	301	96	28	14	8.2
25	12	7.0	6.5	8.5	7.0	8.5	49	323	87	28	15	7.8
26	14	7.0	7.0	7.5	7.5	8.5	49	326	82	27	18	8.2
27	13	7.0	7.0	7.0	8.0	8.5	52	312	78	24	19	8.2
28	12	6.0	7.0	7.5	8.5	8.5	57	303	71	22	16	8.2
29	10	6.0	6.5	7.5	8.5	8.0	62	310	65	22	14	8.0
30	10	6.0	7.0	8.0	---	8.0	95	317	61	20	14	7.8
31	6.8	---	7.0	8.0	---	8.0	---	317	---	25	14	---
TOTAL	317.3	242.5	222.0	253.0	229.0	258.5	745.0	5775	5738	1344	557	310.7
MEAN	10.2	8.08	7.16	8.16	7.90	8.34	24.8	186	191	43.4	18.0	10.4
MAX	14	10	8.0	9.5	9.5	9.0	95	326	321	123	30	16
MIN	6.8	6.0	6.5	7.0	5.5	7.0	7.5	110	61	20	14	7.8
AC-FT	629	481	440	502	454	513	1480	11450	11380	2670	1100	616

CAL YR 1979 TOTAL 11798.8 MEAN 32.3 MAX 272 MIN 2.0 AC-FT 23400
WTR YR 1980 TOTAL 15992.0 MEAN 43.7 MAX 326 MIN 5.5 AC-FT 31720

NOTE.--NO GAGE-HEIGHT RECORD NOV. 5 TO APR. 21.

06701500 SOUTH PLATTE RIVER BELOW CHEESMAN LAKE, CO

LOCATION.--Lat 39°12'33", long 105°16'02", in SE¼NW¼ sec.6, T.10 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank 1,400 ft (430 m) downstream from toe of Cheesman Dam and 3.8 mi (6.1 km) southwest of Deckers.

DRAINAGE AREA.--1,752 mi^2 (4,538 km^2).

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1949. WSP 1730: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 6,609.29 ft (2,014.512 m), National Geodetic Vertical Datum of 1929. Prior to May 14, 1956, at site 370 ft (110 m) upstream at datum 0.50 ft (0.152 m) higher.

REMARKS.--Records excellent. Natural flow of stream affected by minor transmountain diversion from Colorado River basin through Boreas Pass ditch (see elsewhere in this report), Elevenmile Canyon Reservoir and Cheesman Lake (see elsewhere in this report), diversions for irrigation of about 40,000 acres (160 km^2), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--56 years, 158 ft^3/s (4.475 m^3/s), 114,500 acre-ft/yr (141 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,640 ft^3/s (131 m^3/s) Apr. 29, 1970, gage height, 13.4 ft (4.08 m), from floodmarks, by computation of outflow from Cheesman Lake; minimum daily determined, 1.6 ft^3/s (0.045 m^3/s) Apr. 8-14, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,350 ft^3/s (38.2 m^3/s) June 15, gage height, 5.19 ft (1.579 m); minimum daily, 16 ft^3/s (0.45 m^3/s) Nov. 27 to Dec. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	32	16	77	68	22	45	618	750	701	584	167
2	292	21	16	77	68	21	45	878	757	857	627	277
3	329	21	16	84	68	22	45	950	765	912	632	254
4	444	21	16	92	68	24	47	874	748	835	558	247
5	414	71	16	91	68	22	47	832	742	796	558	247
6	311	130	21	89	68	22	48	818	742	750	441	247
7	447	128	30	89	68	24	34	799	747	717	300	247
8	447	128	34	89	68	25	24	839	762	699	264	240
9	447	160	34	89	68	25	34	1070	802	763	264	212
10	444	185	34	89	68	28	62	986	924	694	266	212
11	441	185	35	89	68	44	63	871	1060	659	266	186
12	399	185	39	89	68	63	63	799	1140	692	240	111
13	351	120	42	89	68	82	109	739	1220	717	211	112
14	303	18	42	91	68	111	133	706	1280	685	203	113
15	303	18	42	91	68	122	126	700	1300	637	237	89
16	303	18	42	87	68	124	164	756	1280	585	259	53
17	300	18	42	74	68	110	164	821	1230	526	260	32
18	300	18	42	66	68	94	162	834	1210	478	241	26
19	300	17	42	66	68	94	162	817	1200	437	228	26
20	300	17	44	66	68	94	160	770	1140	427	203	46
21	300	17	44	66	68	94	124	738	1070	483	151	64
22	149	18	44	66	68	94	86	746	1040	555	125	65
23	28	18	44	66	68	94	102	776	1000	651	126	65
24	28	18	45	66	68	92	185	826	933	649	104	65
25	28	18	45	66	68	92	357	858	869	663	109	65
26	34	17	35	66	68	92	441	846	830	684	122	66
27	41	16	38	66	52	92	441	805	804	[illegible]	115	66
28	41	16	47	66	34	92	441	768	777	[illegible]	124	66
29	41	16	56	66	28	92	382	761	745	[illegible]	140	59
30	41	16	66	66	---	103	417	750	711	564	140	54
31	41	---	76	68	---	86	---	742	---	587	142	---
TOTAL	7773	1681	1185	2402	1882	2196	4713	25093	28578	20180	8240	3779
MEAN	251	56.0	38.2	77.5	64.9	70.8	157	809	953	651	266	126
MAX	447	185	76	92	68	124	441	1070	1300	912	632	277
MIN	28	16	16	66	28	21	24	618	711	427	104	26
AC-FT	15420	3330	2350	4760	3730	4360	9350	49770	56680	40030	16340	7500

CAL YR 1979 TOTAL 54219 MEAN 149 MAX 805 MIN 10 AC-FT 107500
WTR YR 1980 TOTAL 107702 MEAN 294 MAX 1300 MIN 16 AC-FT 213600

06706000 NORTH FORK SOUTH PLATTE RIVER BELOW GENEVA CREEK, AT GRANT, CO

LOCATION.--Lat 39°27'26", long 105°39'29", in NW¼ sec.10, T.7 S., R.74 W., Park County, Hydrologic Unit 10190002, on left bank at Grant, 1,550 ft (470 m) downstream from Geneva Creek, and 1.3 mi (2.1 km) downstream from east portal of Harold D. Roberts tunnel.

DRAINAGE AREA.--127 mi² (329 km²).

PERIOD OF RECORD.--July 1908 to November 1913 (published as "at Cassells"), June 1942 to current year. Monthly discharge only for some periods, published in WSP 1310. December 1913 to March 1918, equivalent records may be obtained by summation of flow of North Fork South Platte River at Grant (above Geneva Creek) and Geneva Creek at Grant.

REVISED RECORDS.--WSP 956: Drainage area at site at Cassells. WSP 1116: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8,560.81 ft (2,609.335 m) National Geodetic Vertical Datum of 1929, adjustment of 1960. See WSP 1710 or 1730 for history of changes prior to July 23, 1948. July 23, 1948, to Nov. 15, 1968, water-stage recorder at site 50 ft (15 m) downstream at datum 3.49 ft (1.064 m) lower.

REMARKS.--Records excellent. Small diversions above station for irrigation of about 200 acres (809,400 m²). Transmountain diversions from Colorado River basin to North Fork South Platte River above station through Harold D. Roberts tunnel (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--43 years (water years 1909-13, 1943-80), 69.9 ft³/s (1.978 m³/s), 50,640 acre-ft/yr (62.4 hm³/yr), adjusted for inflow from Harold D. Roberts tunnel since 1964.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 990 ft³/s (28.0 m³/s) June 7, 8, 1912, gage height, 3.30 ft (1.006 m), site and datum then in use, from rating curve extended above 530 ft³/s (15 m³/s); maximum gage height, 4.72 ft (1.439 m), site and datum then in use, Feb. 11, 1952 (backwater from ice); minimum daily discharge, 6.5 ft³/s (0.18 m³/s) Nov. 27, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 710 ft³/s (20.1 m³/s) at 2300 June 11, gage height, 2.08 ft (0.634 m); minimum daily, 17 ft³/s (0.48 m³/s) Apr. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	135	255	103	91	91	88	19	43	292	311	85	349
2	33	260	97	91	91	88	23	43	309	401	74	346
3	33	128	97	91	91	88	20	53	340	376	168	342
4	31	28	97	91	91	88	20	65	378	343	111	341
5	31	28	97	91	91	88	19	78	420	257	61	342
6	31	28	97	91	91	88	18	85	441	232	174	345
7	31	36	97	91	91	88	18	93	420	229	302	345
8	30	109	97	91	91	88	19	96	441	229	329	345
9	31	100	97	91	88	91	19	95	522	206	325	339
10	30	27	97	91	88	91	18	97	554	197	299	276
11	30	27	97	91	88	82	19	101	579	215	294	161
12	28	81	91	91	88	60	18	98	628	227	293	93
13	28	186	91	91	88	44	17	90	569	203	292	105
14	28	304	91	91	88	28	21	93	537	196	297	104
15	28	276	91	91	88	22	22	93	492	172	314	140
16	28	260	91	91	88	23	23	86	469	161	297	217
17	28	260	91	91	88	21	26	89	452	151	308	295
18	28	260	91	91	88	21	29	83	445	142	331	321
19	28	220	91	91	88	22	33	95	411	135	329	372
20	27	150	91	91	88	22	39	101	390	130	326	388
21	30	112	91	91	88	22	48	133	384	126	339	360
22	114	103	91	91	88	22	47	177	377	122	364	335
23	179	103	91	91	88	21	43	232	364	120	364	180
24	184	103	91	91	88	19	34	278	364	118	367	24
25	184	103	91	91	88	19	36	269	348	120	379	23
26	179	103	91	91	88	18	33	254	337	113	347	23
27	179	103	91	91	88	19	33	253	324	105	328	23
28	170	103	91	91	88	21	37	271	303	94	349	22
29	202	103	91	91	88	19	47	282	275	84	354	34
30	260	103	91	91	---	18	50	265	265	140	353	152
31	260	---	91	91	---	19	---	287	---	182	354	---
TOTAL	2638	4062	2893	2821	2576	1448	848	4378	12430	5837	8907	6742
MEAN	85.1	135	93.3	91.0	88.8	46.7	28.3	141	414	188	287	225
MAX	260	304	103	91	91	91	50	287	628	401	379	388
MIN	27	27	91	91	88	18	17	43	265	84	61	22
AC-FT	5230	8060	5740	5600	5110	2870	1680	8680	24650	11580	17670	13370

CAL YR 1979 TOTAL 52382 MEAN 144 MAX 485 MIN 16 AC-FT 103900
WTR YR 1980 TOTAL 55580 MEAN 152 MAX 628 MIN 17 AC-FT 110200

06707000 NORTH FORK SOUTH PLATTE RIVER AT SOUTH PLATTE, CO

LOCATION.--Lat 39°24'32", long 105°10'31", in SW¼ sec.25, T.7 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank 0.2 mi (0.3 km) west of South Platte and 0.3 mi (0.5 km) upstream from mouth.

DRAINAGE AREA.--479 mi² (1,241 km²).

PERIOD OF RECORD.--June 1909 to September 1910, April 1913 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1930(M), 1933(M), 1942(M). WSP 1730: 1954(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,090.55 ft (1,856.400 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to May 13, 1925, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period and those for period of no gage-height record, which are poor. Small diversions above station for irrigation of about 2,000 acres (8.09 km²). Transmountain diversions from Colorado River basin to North Fork South Platte River above station through Harold D. Roberts tunnel (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--68 years (water years 1910, 1914-80), 153 ft³/s (4.333 m³/s), 110,800 acre-ft/yr (137 hm³/yr), adjusted for inflow from Harold D. Roberts tunnel since 1964.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,050 ft³/s (58.1 m³/s) June 13, 1949, gage height, 6.30 ft (1.920 m); minimum observed, 4.0 ft³/s (0.11 m³/s) Dec. 8, 1932 (discharge measurement).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,600 ft³/s (45.3 m³/s) at 0530 June 12, gage height, 4.71 ft (1.436 m); minimum daily, 37 ft³/s (1.05 m³/s) Mar. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	206	328	120	115	105	115	41	498	822	572	256	452
2	107	340	120	115	115	120	46	512	822	738	197	438
3	71	317	120	110	120	118	44	550	830	648	188	438
4	71	91	125	110	120	124	44	550	886	640	297	422
5	69	73	125	110	120	118	53	618	974	512	164	400
6	69	62	120	115	115	124	56	655	1050	468	164	400
7	69	65	115	105	115	127	59	752	1050	452	415	400
8	69	87	115	95	100	118	44	886	1010	482	482	408
9	69	168	115	105	95	118	56	998	1170	460	512	468
10	69	91	115	115	100	124	61	918	1230	520	452	378
11	69	53	110	115	100	130	63	854	1370	482	430	256
12	69	54	100	115	105	115	56	738	1400	535	376	130
13	68	139	105	120	110	77	55	618	1300	482	400	142
14	68	328	105	120	115	75	61	565	1190	505	438	142
15	68	309	110	120	120	63	82	588	1120	385	475	146
16	68	273	110	115	115	54	90	625	1050	385	409	202
17	68	273	110	115	120	37	82	625	1020	385	385	284
18	68	284	110	110	120	49	98	618	974	362	430	355
19	68	262	115	105	120	55	112	625	918	348	422	378
20	68	206	115	105	120	55	115	602	854	334	430	460
21	73	142	115	110	120	48	136	618	822	328	422	408
22	69	125	110	105	120	52	157	738	790	321	475	378
23	200	130	110	105	115	47	168	894	752	334	475	299
24	229	130	105	105	100	42	210	1070	730	321	490	96
25	235	130	110	110	110	53	168	1070	692	321	520	78
26	240	135	115	100	120	46	175	974	670	290	535	77
27	246	135	120	90	125	42	175	870	640	235	445	75
28	235	130	115	100	120	46	202	862	595	192	452	73
29	240	115	105	100	120	43	235	878	558	192	460	71
30	334	120	110	100	---	42	348	838	528	206	452	88
31	334	---	115	100	---	52	---	830	---	315	468	---
TOTAL	3986	5095	3510	3360	3300	2429	3292	23037	27817	12750	12518	8342
MEAN	129	170	113	108	114	78.4	110	743	927	411	404	278
MAX	334	340	125	120	125	130	348	1070	1400	738	535	468
MIN	68	53	100	90	95	37	41	498	528	192	164	71
AC-FT	7910	10110	6960	6660	6550	4820	6530	45690	55180	25290	24830	16550

CAL YR 1979 TOTAL 88717 MEAN 243 MAX 1240 MIN 40 AC-FT 176000
WTR YR 1980 TOTAL 109436 MEAN 299 MAX 1400 MIN 37 AC-FT 217100

NOTE.--NO GAGE-HEIGHT RECORD NOV. 22 TO MAR. 2.

06707500 SOUTH PLATTE RIVER AT SOUTH PLATTE, CO

LOCATION.--Lat 39°24'33", long 105°10'10", in SE¼ sec.25, T.7 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank at South Platte, 200 ft (61 m) downstream from bridge on State Highway 75, and 400 ft (120 m) downstream from North Fork.

DRAINAGE AREA.--2,579 mi² (6,680 km²).

PERIOD OF RECORD.--July 1887 to September 1891, May to October 1892, October 1895 to September 1897, October 1898 to June 1900, October 1900 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at" or "near Deansbury," "at Deansbury and Platte Canyon," "at" or "near Platte Canyon," prior to 1901, and "below North Fork, at South Platte" 1914.

REVISED RECORDS.--WSP 306: 1910. WSP 1310: 1887-91, 1893, 1896, 1900, 1904, 1915(M), 1922(M), 1936(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,078.43 ft (1,852.705 m), National Geodetic Vertical Datum adjustment of 1912. See WSP 1710 or 1730 for history of changes prior to Mar. 14, 1910.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions through Boreas Pass ditch and Harold D. Roberts tunnel (see elsewhere in this report), Elevenmile Canyon Reservoir and Cheesman Lake (see elsewhere in this report), diversions above station for irrigation of about 45,000 acres (182 km²), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,320 ft³/s (179 m³/s) June 8, 1921, gage height, 8.95 ft (2.728 m), from rating curve extended above 3,500 ft³/s (99 m³/s); minimum daily determined, 10 ft³/s (0.28 m³/s) Dec. 5, 1899.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,730 ft³/s (77.3 m³/s) at 0600 June 12, gage height, 6.05 ft (1.844 m); minimum daily, 102 ft³/s (2.89 m³/s) Apr. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	298	372	155	210	190	159	118	1280	1720	1210	815	584
2	325	372	155	215	200	161	120	1570	1720	1510	785	668
3	390	347	160	210	205	170	115	1720	1720	1530	855	668
4	470	132	165	215	205	168	115	1720	1770	1430	820	636
5	510	117	165	225	205	164	127	1770	1850	1250	717	622
6	450	192	160	230	200	170	132	1860	1900	1170	672	622
7	460	220	160	210	200	175	132	1970	1910	1090	708	618
8	525	248	165	190	180	159	102	2130	1900	1120	704	614
9	525	337	165	210	170	159	110	2500	2110	1110	735	622
10	525	307	165	230	180	161	134	2430	2230	1140	686	584
11	525	265	155	230	180	173	159	2270	2480	1030	672	508
12	505	274	145	230	190	175	150	2060	2570	1140	658	313
13	460	344	155	235	195	161	144	1840	2540	1090	618	310
14	410	375	165	235	200	185	248	1690	2480	1080	622	307
15	390	350	170	230	205	205	222	1700	2440	996	690	307
16	390	325	170	220	200	200	301	1820	2340	920	699	331
17	390	325	170	210	205	170	298	1880	2270	855	668	375
18	390	331	175	190	210	166	319	1880	2210	790	676	403
19	390	316	180	185	215	170	344	1850	2150	748	650	406
20	390	277	180	185	215	170	354	1760	2010	699	632	456
21	400	202	180	190	215	161	389	1720	1920	744	592	448
22	320	175	175	185	210	168	361	1860	1840	800	572	452
23	310	178	170	180	200	164	392	2040	1720	920	568	403
24	275	180	165	185	180	154	492	2200	1650	900	572	190
25	280	185	170	190	200	173	572	2230	1550	915	560	154
26	286	180	175	170	225	161	681	2120	1480	941	592	150
27	292	175	180	160	222	161	686	1950	1420	915	548	144
28	286	160	170	155	198	166	722	1880	1330	845	556	140
29	295	140	160	170	190	159	740	1860	1250	722	588	136
30	372	150	175	180	---	154	860	1780	1190	758	588	157
31	375	---	195	180	---	200	---	1740	---	885	592	---
TOTAL	12209	7551	5195	6240	5790	5242	9639	59080	57670	31253	20410	12328
MEAN	394	252	168	201	200	169	321	1906	1922	1008	658	411
MAX	525	375	195	235	225	205	860	2500	2570 E	1530	855	668
MIN	275	117	145	155	170	154	102	1280	1190	699	548	136
AC-FT	24220	14980	10300	12380	11480	10400	19120	117200	114400	61990	40480	24450

CAL YR 1979 TOTAL 154321 MEAN 423 MAX 1750 MIN 117 AC-FT 306100
WTR YR 1980 TOTAL 232607 MEAN 636 MAX 2570 MIN 102 AC-FT 461400

06708000 SOUTH PLATTE RIVER AT WATERTON, CO

LOCATION.--Lat 39°29'18", long 105°05'32", in NE¼ sec.34, T.6 S., R.69 W., Jefferson County, Hydrologic Unit 10190002, on left bank 168 ft (51 m) downstream from bridge on State Highway 221, 0.4 mi (0.6 km) south of Waterton, 4.7 mi (7.6 km) west of Louviers, and 6 mi (10 km) upstream from Plum Creek.

DRAINAGE AREA.--2,621 mi^2 (6,788 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1926 to current year. Monthly discharge only prior to 1934, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 5,484.43 ft (1,671.654 m) National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), Elevenmile Canyon Reservoir and Cheesman Lake (see elsewhere in this report), diversions for irrigation of about 55,000 acres (223 km^2) and municipal use, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--54 years, 176 ft^3/s (4.984 m^3/s), 127,500 acre-ft/yr (157 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,700 ft^3/s (161 m^3/s) Apr. 23, 1942, gage height, 5.68 ft (1.731 m); minimum daily, 0.1 ft^3/s (0.003 m^3/s) Mar. 6, 7, 1933, Feb. 28 to Mar. 2, Mar. 20, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,370 ft^3/s (67.1 m^3/s) at 1100 May 9, gage height, 3.52 ft (1.073 m); minimum daily, 8.5 ft^3/s (0.24 m^3/s) Nov. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	22	30	30	15	18	83	1160	1320	736	412	158
2	78	23	30	15	25	18	9.9	1460	1310	1060	385	164
3	61	23	15	15	29	18	11	1760	1280	1140	462	138
4	64	133	11	50	23	19	14	1730	1290	972	451	124
5	60	99	14	15	16	17	15	1620	1360	834	321	111
6	64	120	12	15	14	18	15	1660	1400	721	267	125
7	164	29	26	26	18	17	15	1780	1390	619	294	126
8	62	20	20	30	33	20	12	1970	1380	641	276	108
9	62	13	27	20	68	20	11	2310	1560	662	314	154
10	48	171	23	20	50	20	15	2220	1660	707	257	85
11	42	270	22	20	45	20	35	2080	1820	650	250	41
12	42	141	24	20	45	20	29	1900	1910	737	247	55
13	40	21	26	23	40	22	20	1690	1880	699	192	71
14	54	42	70	19	45	21	52	1570	1810	705	183	65
15	43	35	130	31	40	21	29	1650	1750	592	258	68
16	42	15	110	17	30	20	30	1830	1650	538	297	73
17	39	8.5	140	16	30	24	25	1910	1620	464	252	71
18	37	11	140	16	20	20	31	1910	1610	286	295	62
19	30	10	170	32	23	19	38	1780	1550	234	247	65
20	28	59	160	44	31	19	34	1700	1440	267	245	73
21	40	70	140	30	23	20	34	1660	1350	406	196	62
22	28	45	160	30	21	21	36	1690	1280	418	142	65
23	31	30	150	40	20	21	37	1780	1180	521	121	53
24	26	23	150	20	15	21	244	1980	1110	497	129	56
25	23	30	140	15	20	20	429	2020	1140	507	119	64
26	15	20	70	60	21	21	564	1830	970	476	167	60
27	18	13	15	60	22	21	570	1670	916	413	113	56
28	17	23	15	40	30	21	544	1550	832	357	129	53
29	22	28	19	40	19	18	544	1200	760	202	149	49
30	24	30	50	30	---	71	699	1310	736	219	147	41
31	19	---	70	30	---	238	---	1380	---	355	169	---
TOTAL	1385	1577.5	2179	869	831	884	4224.9	53760	41264	17635	7486	2496
MEAN	44.7	52.6	70.3	28.0	28.7	28.5	141	1734	1375	569	241	83.2
MAX	164	270	170	60	68	238	699	2310	1910	1140	462	164
MIN	15	8.5	11	15	14	17	9.9	1160	736	202	113	41
AC-FT	2750	3130	4320	1720	1650	1750	8380	106600	81850	34980	14850	4950

CAL YR 1979 TOTAL 60978.4 MEAN 167 MAX 1330 MIN 5.7 AC-FT 121000
WTR YR 1980 TOTAL 134591.4 MEAN 368 MAX 2310 MIN 8.5 AC-FT 267000

06708000 SOUTH PLATTE RIVER AT WATERTON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	ALKA-LINITY FIELD (MG/L AS CACO3)
FEB											
05...	0835	17	330	7.7	.0	1.0	11.2	108	28	9.0	80
JUN											
23...	1030	1160	320	7.8	13.5	5.0	8.4	96	24	9.0	70
JUL											
22...	0830	411	450	7.9	14.5	15	7.9	135	32	13	96
AUG											
19...	0830	247	330	7.7	24.0	1.0	8.6	102	27	9.0	74

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
FEB											
05...	45	--	162	0	.18	.00	.01	.09	.10	.01	.00
JUN											
23...	35	30	232	11	.03	.00	.01	.39	.40	.04	.00
JUL											
22...	61	45	284	5	.01	.00	.00	.10	.10	.05	.00
AUG											
19...	48	29	180	3	.11	.00	.00	.30	.30	.02	.00

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
FEB										
05...	20	1	0	1	9	2	51	10	--	5
JUN										
23...	--	--	--	--	--	--	--	--	--	--
JUL										
22...	260	1	0	0	4	0	371	--	0	43
AUG										
19...	--	--	--	--	--	--	--	--	--	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
FEB									
05...	.0	4	0	1	--	17	.00	0	.0
JUN									
23...	.0	--	--	--	--	--	--	--	--
JUL									
22...	.0	0	0	0	.00	7	.00	0	.0
AUG									
19...	.0	--	--	--	--	--	--	--	--

06709500 PLUM CREEK NEAR LOUVIERS, CO

LOCATION.--Lat 39°29'04", long 105°00'07", in SE¼ sec.33, T.6 S., R.68 W., Douglas County, Hydrologic Unit 10190002, on downstream side of bridge on county road from U.S. Highway 85 to Louviers, 0.8 mi (1.3 km) northeast of Louviers, 1.2 mi (1.9 km) downstream from Indian Creek, and 7.5 mi (12.1 km) upstream from mouth.

DRAINAGE AREA.--302 mi² (782 km²).

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 1730: 1954, drainage area at site 2.5 mi (4.0 km) downstream. WSP 1918: 1957(M).

GAGE.--Water-stage recorder. Altitude of gage is 5,585 ft (1,702 m), from topographic map. Prior to Feb. 12, 1957, at site 2.5 mi (4.0 km) downstream and Nov. 7, 1965, to Aug. 6, 1966, at site 2.2 mi (3.5 km) downstream at different datums. Feb. 12, 1957, to Nov. 6, 1965, at present site at about present datum.

REMARKS.--Records poor. Diversions above station for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--33 years, 28.7 ft³/s (0.813 m³/s), 20,790 acre-ft/yr (25.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 154,000 ft³/s (4,360 m³/s) June 16, 1965, gage height, 22.4 ft (6.83 m), from floodmarks, by slope-area measurement of peak flow; no flow at times in 1951-52, 1956-60, 1963-64.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 220 ft³/s (6.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 10	0700	*815	23.1	2.97	0.905	July 2	2100	273	7.73	2.53	0.771

Minimum daily discharge, 0.05 ft³/s (0.001 m³/s) Oct. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	4.4	4.7	4.5	20	45	14	407	179	9.2	5.8	.43
2	.10	5.2	4.9	4.5	21	42	27	432	170	127	4.5	.48
3	.10	6.8	5.0	4.4	28	36	30	425	152	120	3.3	.48
4	.10	9.2	5.2	4.4	28	30	52	511	114	52	2.6	.48
5	.08	9.2	5.4	4.3	21	36	93	559	114	24	2.3	.48
6	.08	9.2	5.4	4.4	21	36	101	639	98	13	2.0	.48
7	.05	9.2	5.4	4.4	16	36	93	607	93	10	1.7	.48
8	.05	9.2	5.4	4.9	9.2	21	52	673	101	14	1.3	.48
9	.10	9.2	5.2	5.2	9.2	18	42	591	78	8.0	1.2	1.5
10	.10	8.0	5.0	5.8	10	8.0	45	591	57	24	.95	2.0
11	.08	8.0	5.0	6.5	8.0	13	73	655	36	57	.76	1.5
12	.08	9.2	4.9	7.0	5.2	13	62	673	45	36	.60	1.2
13	.08	10	4.8	6.6	5.2	9.2	67	591	33	24	.54	1.3
14	.15	10	4.8	6.0	14	12	88	567	24	18	.43	1.3
15	.22	9.2	4.8	5.5	13	8.0	98	575	24	24	1.1	1.1
16	.30	9.2	4.9	5.4	6.8	13	130	655	33	24	1.1	1.1
17	.38	9.2	5.0	5.2	18	15	117	599	33	134	.79	1.0
18	.38	9.2	5.4	5.2	24	16	124	583	30	39	.56	.79
19	.38	9.2	5.4	5.5	57	27	101	559	21	15	.48	.66
20	.38	6.8	5.2	6.0	42	27	117	559	45	16	.43	.56
21	.70	4.8	4.9	5.0	30	21	124	535	52	15	.43	.56
22	.70	4.9	4.9	3.7	52	27	162	535	39	14	.38	.56
23	.79	5.0	4.9	3.5	76	30	200	519	36	12	.34	.61
24	.70	5.0	5.2	3.5	104	15	273	495	30	16	.34	.66
25	.79	5.0	5.2	3.5	117	24	252	425	30	15	.30	.70
26	.79	4.8	5.0	3.5	101	27	242	365	30	14	.43	.79
27	.88	4.6	4.8	3.6	88	27	218	273	14	14	.70	.88
28	.88	4.5	4.7	9.2	93	42	208	247	12	12	.48	.79
29	1.4	4.5	4.5	10	52	33	213	223	5.6	8.0	.34	.70
30	3.2	4.6	4.4	16	---	36	262	195	4.4	6.8	.34	.70
31	3.6	---	4.5	18	---	39	---	187	---	5.6	.48	---
TOTAL	17.70	217.3	154.8	185.2	1091.6	782.2	3680	15450	1733.0	920.6	37.00	24.75
MEAN	.57	7.24	4.99	5.97	37.6	25.2	123	498	57.8	29.7	1.19	.83
MAX	3.6	10	5.4	18	117	45	273	673	179	134	5.8	2.0
MIN	.05	4.4	4.4	3.5	5.2	8.0	14	187	4.4	5.6	.30	.43
AC-FT	35	431	307	367	2170	1550	7300	30650	3440	1830	73	49

CAL YR 1979 TOTAL 16217.32 MEAN 44.4 MAX 365 MIN .05 AC-FT 32170
WTR YR 1980 TOTAL 24294.15 MEAN 66.4 MAX 673 MIN .05 AC-FT 48190

NOTE.--NO GAGE-HEIGHT RECORD JULY 14 TO AUG. 13.

06709600 CHATFIELD LAKE NEAR LITTLETON, CO

LOCATION.--Lat 39°33'26", long 105°03'27", in NW¼SE¼ sec.1, T.6 S., R.69 W., Jefferson County, Hydrologic Unit 10190002, near left end of dam on South Platte River at mouth of Plum Creek and 4.7 mi (7.6 km) southwest of courthouse in Littleton.

DRAINAGE AREA.--3,018 mi^2 (7,817 km^2).

PERIOD OF RECORD.--May 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by earthfill dam. Storage began May 29, 1975. Capacity, 235,000 acre-ft (290 hm^3) at elevation 5,500 ft (1,676.400 m), crest of spillway. No dead storage. Figures given represent total contents. Reservoir is for flood control and recreation.

COOPERATION.--Records furnished by U.S. Army, Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 54,690 acre-ft (67.4 hm^3) May 26, 1980, elevation, 5,447.58 ft (1,660.422 m); no contents prior to May 29, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 54,690 acre-ft (67.4 hm^3) May 26, elevation, 5,447.58 ft (1,660.422 m); minimum, 24,800 acre-ft (30.6 hm^3) Sept. 24, elevation, 5,430.72 ft (1,655.283 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,431.79	26,330	-
Oct. 31	5,431.65	26,130	-200
Nov. 30	5,431.53	25,950	-180
Dec. 31	5,431.55	25,980	+30
CAL YR 1979			+17,980
Jan. 31	5,432.01	26,650	+670
Feb. 29	5,431.97	26,590	-60
Mar. 31	5,431.99	26,620	+30
Apr. 30	5,432.78	27,810	+1,190
May 31	5,445.58	50,570	+22,760
June 30	5,431.79	26,330	-24,240
July 31	5,431.79	26,330	0
Aug. 31	5,431.28	25,590	-740
Sept. 30	5,430.78	24,880	-710
WTR YR 1980			-1,450

06709600 CHATFIELD LAKE NEAR LITTLETON, CO--Continued

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER-QUALITY RECORDS, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (IN)	OXYGEN, DISSOLVED (MG/L)
FEB							
11...	1125	.0	350	8.4	.5	8.0	12.0
11...	1126	1.0	360	8.6	.5	--	11.6
11...	1127	3.0	360	8.6	2.0	--	11.4
11...	1128	9.0	370	8.5	3.0	--	9.8
11...	1129	16	385	8.1	3.0	--	7.3
11...	1130	22	385	7.8	3.0	--	6.2
11...	1131	29	400	7.6	3.0	--	6.5
11...	1132	5.0	--	--	--	--	--
JUN							
25...	1030	.0	285	8.1	21.0	84.0	7.6
25...	1031	1.0	285	8.3	20.0	--	7.8
25...	1032	3.0	295	8.3	20.0	--	7.5
25...	1033	9.0	295	8.2	19.0	--	7.4
25...	1034	16	320	7.7	17.5	--	6.2
25...	1035	22	330	7.6	16.5	--	6.0
25...	1036	29	320	7.5	16.0	--	6.0
25...	1037	5.0	--	--	--	--	--
JUL							
23...	1000	.1	370	8.0	22.0	89.0	6.4
23...	1001	.0	370	8.0	22.0	--	6.3
23...	1002	1.0	370	8.0	22.0	--	6.1
23...	1003	3.0	370	8.1	22.0	--	6.1
23...	1004	9.0	370	8.0	22.0	--	5.8
23...	1005	16	380	7.6	21.0	--	4.0
23...	1006	22	390	7.3	20.0	--	2.8
23...	1007	5.0	--	--	--	--	--
AUG							
21...	1310	.0	400	7.9	22.0	121	7.0
21...	1311	1.0	410	8.1	21.0	--	7.1
21...	1312	3.0	410	8.2	20.5	--	7.3
21...	1313	9.0	405	8.1	20.0	--	6.8
21...	1314	16	415	8.0	19.5	--	6.4
21...	1315	22	420	8.0	19.0	--	5.6
21...	1316	29	400	7.4	18.5	--	3.2
21...	1317	5.0	--	--	--	--	--

06709000 CHATFIELD LAKE NEAR LITTLETON, CO--Continued

WATER-QUALITY RECORDS, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)
FEB										
11...	1132	5.0	2.0	253	68	20	100	50	5.0	238
JUN										
25...	1037	5.0	3.0	91	22	9.0	68	31	25	216
JUL										
23...	1007	5.0	20	121	29	12	87	59	33	214
AUG										
21...	1317	5.0	1.0	130	33	12	94	62	36	232

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	CHLOROPHYLL, TOTAL, PHYTOPLNKTN, UNCORR. (UG/L)
FEB										
11...	0	.81	.00	.12	.58	.70	.00	.00	.5	84
JUN										
25...	4	.04	.00	.05	1.0	1.10	.04	.01	.3	7.0
JUL										
23...	3	.14	.00	.04	--	--	.06	.00	.4	9.0
AUG										
21...	3	.05	.00	.03	--	--	.04	.00	.0	5.0

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
FEB									
11...	160	1	0	2	11	6	227	12	78
JUL									
23...	160	1	0	0	7	0	198	0	44

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	THALLIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
FEB								
11...	7	0	0	--	14	.00	0	.0
JUL								
23...	0	0	0	.00	22	.00	0	.0

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO

LOCATION.--Lat 39°37'08", long 105°01'07", in NE¼ sec.17, T.5 S., R.68 W., Arapahoe County, Hydrologic unit 10190002, on left bank 200 ft (61 m) downstream from Crestline Ave. Bridge at Littleton, 3.1 mi (5.0 km) upstream from Bear Creek, and 6.3 mi (10 km) downstream from Chatfield Dam.

DRAINAGE AREA.--3,069 mi^2 (7,949 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1941 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,304.35 ft (1,616.769 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Nov. 23, 1948, nonrecording gage on bridge 200 ft (61 m) upstream at datum 1.00 ft (0.305 m) higher. Nov. 23, 1948, to Sept. 30, 1951, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage and flood-control reservoirs, power developments, diversions for irrigation and municipal use, and return flow from irrigated areas. Flow regulated by Chatfield Dam since May 29, 1975 (station 06709600).

AVERAGE DISCHARGE.--33 years (water years 1942-74), 234 ft^3/s (6.627 m^3/s), 169,500 acre-ft/yr (209 hm^3/yr), prior to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 110,000 ft^3/s (3,100 m^3/s) June 16, 1965, gage height, 15.45 ft (4.709 m), from floodmarks, estimated from contracted-opening and flow-over-road measurement of peak flow at point 1.6 mi (2.6 km) downstream and slope-area measurement of peak flow on Plum Creek at point 12.7 mi (20.4 km) upstream; minimum daily, 7.2 ft^3/s (0.20 m^3/s) Oct. 2, 1956.
Stage and discharge of the flood of June 16, 1965, are the greatest since at least 1894.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,440 ft^3/s (69.1 m^3/s) at 1800 May 7, gage height, 6.06 ft (1.847 m), minimum daily, 21 ft^3/s (0.59 m^3/s) Dec. 1, 2, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	35	21	63	75	69	291	1040	2400	850	306	225
2	39	35	21	61	57	69	250	1940	2380	850	412	239
3	45	35	24	60	57	68	158	2140	2390	1340	444	179
4	39	33	24	51	55	68	86	2170	2370	1390	504	117
5	36	45	23	34	57	68	82	2190	2370	1180	552	84
6	49	176	21	33	65	68	79	2260	2350	1010	448	65
7	66	236	24	32	65	69	80	2380	2340	785	325	63
8	100	80	25	31	65	69	97	1880	2320	700	295	65
9	85	77	25	31	65	68	138	2040	2310	705	298	144
10	60	75	36	47	65	66	141	2070	2290	830	298	179
11	35	190	65	42	75	55	160	2100	2280	948	261	135
12	35	320	66	40	94	52	176	2200	2280	972	229	103
13	35	130	79	66	101	51	172	2280	2280	948	264	84
14	35	29	79	92	101	51	138	2290	2270	930	225	65
15	30	29	79	90	115	51	105	2280	2260	770	130	66
16	29	27	122	86	141	52	84	1400	2250	680	188	65
17	29	27	198	86	141	57	55	1030	2220	596	325	65
18	28	27	225	84	112	58	54	1030	2200	528	405	48
19	27	27	229	84	88	71	77	1520	2190	440	409	28
20	33	29	229	80	82	73	257	2110	2180	236	378	41
21	65	28	195	80	80	71	243	2100	2160	472	283	55
22	68	27	163	71	80	65	261	2130	2140	524	138	57
23	141	47	163	77	80	63	250	2140	2110	512	84	57
24	108	128	195	77	82	63	582	2150	1760	504	84	37
25	54	130	236	60	80	63	960	2170	1570	512	92	36
26	49	128	232	58	80	63	1040	2180	1540	448	130	30
27	44	128	169	57	77	66	954	2200	1290	870	218	29
28	44	130	88	55	69	90	835	2210	966	524	163	31
29	47	90	88	57	69	122	825	2280	855	378	92	31
30	41	24	92	64	---	115	978	2410	825	205	103	30
31	36	---	80	90	---	198	---	2410	---	201	135	---
TOTAL	1577	2522	3316	1939	2373	2232	9608	62730	61146	21838	8218	2453
MEAN	50.9	84.1	107	62.5	81.8	72.0	320	2024	2038	704	265	81.8
MAX	141	320	236	92	141	198	1040	2410	2400	1390	552	239
MIN	27	24	21	31	55	51	54	1030	825	201	84	28
AC-FT	3130	5000	6580	3850	4710	4430	19060	124400	121300	43320	16300	4870

CAL YR 1979 TOTAL 71585 MEAN 196 MAX 1680 MIN 12 AC-FT 142000
WTR YR 1980 TOTAL 179952 MEAN 492 MAX 2410 MIN 21 AC-FT 356900

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1970 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1979 to September 1980.
WATER TEMPERATURES: April 1970 to current year.

INSTRUMENTATION.--Temperature recorder since April 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 623 micromnos Sept. 7, 1980; minimum daily, 118 micromhos Dec. 3, 1979.
WATER TEMPERATURES: Maximum, 32°C June 12, 1979; minimum, freezing point on many days during winter months most years.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 623 micromnos Sept. 7; minimum daily, 118 micromhos Dec. 3.
WATER TEMPERATURES: Maximum, 24.5°C Aug. 11; minimum, 1.0°C on several days during December to March.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT												
04...	1005	46	460	7.8	13.0	3.8	9.4	.8	--	K440	210	160
NOV												
14...	1300	40	600	7.7	8.5	2.4	9.4	1.3	--	<1	K10	200
DEC												
06...	1245	E30	650	8.1	4.0	4.9	11.8	1.4	--	4700	K683	210
JAN												
08...	1015	36	510	8.1	.0	2.9	12.2	2.5	--	K23	<1	180
FEB												
13...	1225	97	480	7.9	6.0	2.6	11.2	2.4	--	K2	K5	170
MAR												
14...	0900	52	500	7.7	5.0	2.2	11.2	2.6	--	K4	K4	160
26...	1000	--	590	8.3	5.0	--	10.5	--	16	--	--	--
APR												
01...	0815	--	--	8.4	4.0	--	12.8	--	35	--	--	--
08...	0830	--	--	8.2	3.5	--	15.6	--	13	--	--	--
14...	1250	128	420	7.8	12.0	2.8	8.8	1.5	--	K1	K1	150
15...	0930	--	--	8.2	13.0	--	10.8	--	39	--	--	--
22...	0915	--	--	8.3	10.5	--	9.2	--	9	--	--	--
29...	0815	--	--	8.2	9.5	--	10.2	--	8	--	--	--
MAY												
14...	1045	1950	270	7.7	11.5	33	9.0	2.0	--	K15	120	82
JUN												
19...	1210	2070	250	7.5	16.0	11	8.0	.6	--	--	K27	79
JUL												
11...	0830	845	360	7.7	21.5	4.8	7.6	.8	--	--	230	110
AUG												
11...	1110	298	460	8.0	22.5	2.1	8.4	.9	--	160	190	130
SEP												
10...	1020	205	420	8.2	18.0	2.6	8.0	.4	--	220	530	140

E ESTIMATED.

K BASED ON NON-IDEAL COLONY COUNT.

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT												
04...	48	45	11	31	1.1	2.8	110	71	32	.9	8.8	269
NOV												
14...	63	58	14	37	1.1	3.6	140	94	36	1.1	9.1	334
DEC												
06...	64	61	15	46	1.4	3.5	150	120	42	1.1	7.4	396
JAN												
08...	43	52	13	35	1.1	3.1	140	81	33	1.1	6.3	317
FEB												
13...	67	47	12	32	1.1	3.0	100	74	32	.9	5.9	286
MAR												
14...	50	46	11	28	1.0	3.0	110	71	29	1.1	8.5	276
26...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
01...	--	--	--	--	--	--	--	--	28	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--
14...	61	43	11	29	1.0	2.7	92	68	28	1.0	6.2	254
15...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	27	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
14...	30	22	6.6	18	.9	2.2	52	35	19	1.1	12	167
JUN												
19...	21	20	7.0	17	.8	2.0	58	31	19	.9	10	159
JUL												
11...	37	27	10	26	1.1	2.1	72	44	29	.9	8.9	222
AUG												
11...	38	34	12	32	1.2	2.7	96	57	42	.9	7.9	254
SEP												
10...	50	36	12	32	1.2	2.6	89	59	40	.8	8.0	252

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)
OCT												
04...	270	.37	33.4	--	.29	.26	.03	.00	.51	.57	.54	.00
NOV												
14...	340	.45	36.1	--	.75	.73	.06	.00	.46	.52	.52	.00
DEC												
06...	390	.54	E31.6	--	.80	.83	.01	.02	.53	.57	.54	.00
JAN												
08...	314	.43	31.2	--	1.30	1.3	.11	.04	1.1	1.2	1.20	.00
FEB												
13...	275	.39	74.9	--	1.90	1.9	.12	.12	.51	.38	.63	.13
MAR												
14...	272	.38	38.9	--	1.80	1.8	.17	.18	.93	.64	1.10	.28
26...	--	--	--	5	1.00	--	.08	--	.52	--	.60	--
APR												
01...	--	--	--	34	.89	--	.08	--	.73	--	.81	--
08...	--	--	--	14	1.00	--	.04	--	.75	--	.79	--
14...	248	.35	87.8	--	.88	.88	.06	.08	.66	.52	.72	.12
15...	--	--	--	5	.93	--	.08	--	.63	--	.71	--
22...	--	--	--	26	.83	--	.00	--	.87	--	.87	--
29...	--	--	--	58	.80	--	.04	--	.95	--	.99	--
MAY												
14...	148	.23	879	--	.26	.28	.10	.03	2.0	1.7	2.10	.40
JUN												
19...	142	.22	889	--	.06	.10	.04	.07	--	.52	--	.08
JUL												
11...	191	.30	506	--	.00	.01	.02	.01	1.6	.83	1.60	.76
AUG												
11...	247	.35	204	--	.08	.10	.01	.00	.57	.81	.58	.00
SEP												
10...	244	.34	139	--	.03	.05	.00	.00	.51	.38	.51	.13

E ESTIMATED.

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)
OCT												
04...	.57	.83	.02	.00	--	--	5.3	--	--	--	--	--
NOV												
14...	.52	1.3	.01	.01	--	2.9	--	1200	--	--	--	--
DEC												
06...	.59	1.3	.02	.01	--	8.2	--	660	--	--	--	--
JAN												
08...	1.2	2.5	.02	.00	--	6.2	--	--	--	--	--	--
FEB												
13...	.50	2.5	.01	.01	--	5.1	--	--	--	--	--	--
MAR												
14...	.82	2.9	.02	.01	--	--	5.2	120	--	--	--	--
26...	--	1.6	.08	--	.05	7.0	--	--	--	--	--	--
APR												
01...	--	1.7	.05	--	.01	7.7	--	--	--	--	--	--
08...	--	1.8	.06	--	.01	5.2	--	--	--	--	--	--
14...	.60	1.6	.04	.01	--	5.9	--	--	.020	.140	.000	.000
15...	--	1.6	.03	--	.05	4.4	--	--	--	--	--	--
22...	--	1.7	.06	--	.03	4.0	--	--	--	--	--	--
29...	--	1.8	.05	--	.05	5.0	--	--	--	--	--	--
MAY												
14...	1.7	2.4	.15	.02	--	12	--	590	--	--	--	--
JUN												
19...	.59	--	.04	.01	--	--	6.8	--	--	--	--	--
JUL												
11...	.84	1.6	.03	.01	--	5.9	--	--	--	--	--	--
AUG												
11...	.81	.66	.03	.01	--	--	8.2	--	--	--	--	--
SEP												
10...	.38	.54	.02	.00	--	12	--	33000	--	--	--	--

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
OCT										
04...	1005	1	1	100	70	0	2	0	0	0
MAR										
14...	0900	2	1	300	70	0	2	0	0	0
26...	1000	--	--	--	--	0	--	--	--	--
APR										
01...	0815	--	--	--	--	0	--	--	--	--
08...	0830	--	--	--	--	0	--	--	--	--
14...	1250	--	--	--	--	--	--	--	--	--
15...	0930	--	--	--	--	1	--	--	--	--
22...	0915	--	--	--	--	0	--	--	--	--
29...	0815	--	--	--	--	1	--	--	--	--
MAY										
14...	1045	--	--	--	--	--	--	--	--	--
JUN										
19...	1210	1	1	0	40	1	3	0	0	0
JUL										
11...	0830	--	--	--	--	--	--	--	--	--
AUG										
11...	1110	2	1	100	60	0	1	0	10	0
SEP										
10...	1020	--	--	--	--	--	--	--	--	--

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
OCT										
04...	<3	1	2	140	20	3	0	20	60	.0
MAR										
14...	<3	5	2	200	10	0	0	130	110	.0
26...	--	6	--	150	--	21	--	80	--	--
APR										
01...	--	5	--	780	--	7	--	160	--	--
08...	--	7	--	350	--	13	--	80	--	--
14...	--	--	--	--	--	--	--	--	--	--
15...	--	3	--	270	--	0	--	60	--	--
22...	--	11	--	870	--	6	--	100	--	--
29...	--	3	--	1300	--	7	--	0	--	--
MAY										
14...	--	--	--	--	--	--	--	--	--	--
JUN										
19...	3	10	4	910	80	6	0	90	30	.0
JUL										
11...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	<3	4	2	160	10	3	1	70	40	.2
SEP										
10...	--	--	--	--	--	--	--	--	--	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT									
04...	.0	2	0	1	1	0	0	0	<3
MAR									
14...	.0	5	1	1	1	0	0	20	<3
26...	--	--	--	--	--	--	--	50	--
APR									
01...	--	--	--	--	--	--	--	20	--
08...	--	--	--	--	--	--	--	10	--
14...	--	--	--	--	--	0	--	--	--
15...	--	--	--	--	--	--	--	0	--
22...	--	--	--	--	--	--	--	20	--
29...	--	--	--	--	--	--	--	30	--
MAY									
14...	--	--	--	--	--	0	--	--	--
JUN									
19...	.0	4	0	0	0	1	0	480	<3
JUL									
11...	--	--	--	--	--	0	--	--	--
AUG									
11...	.0	2	2	0	0	0	0	10	<3
SEP									
10...	--	--	--	--	--	0	--	--	--

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT				
04...	1005	46	9	1.1
NOV				
14...	1300	40	4	.43
DEC				
06...	1245	E30	17	--
JAN				
08...	1015	36	4	.39
FEB				
13...	1225	97	11	2.9
MAR				
14...	0900	52	5	.70
APR				
14...	1250	128	7	2.4
JUN				
19...	1210	2070	133	743
JUL				
11...	0830	845	33	75
AUG				
11...	1110	298	5	4.0
SEP				
10...	1020	205	13	7.2

E ESTIMATED.

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	411	548	552	478	354	450	359	327	270	360	427	433
2	514	459	470	548	467	444	323	306	248	365	416	570
3	492	453	118	495	461	399	350	281	245	357	418	572
4	508	491	524	466	460	415	384	279	244	360	413	474
5	511	288	455	230	440	400	354	266	244	365	415	578
6	411	284	530	460	460	433	394	247	243	357	414	476
7	534	270	556	499	460	420	347	265	354	362	408	623
8	504	284	127	433	522	404	375	265	348	412	410	586
9	541	296	510	461	500	426	337	255	351	412	517	576
10	494	388	403	363	499	423	298	265	346	409	416	474
11	491	378	239	183	435	399	368	264	349	409	422	470
12	488	330	269	280	434	398	369	264	350	409	413	455
13	539	262	391	527	421	397	336	264	348	408	419	552
14	495	536	364	285	422	429	330	264	347	411	421	560
15	479	305	350	355	421	420	375	266	346	411	417	599
16	493	606	364	332	424	416	388	263	344	411	421	610
17	501	609	390	252	444	441	411	264	343	411	406	468
18	491	610	394	214	434	433	402	264	343	408	429	456
19	498	603	392	431	458	405	440	264	343	408	429	442
20	574	378	389	272	458	414	366	258	341	407	416	437
21	418	600	312	349	448	420	316	250	348	408	423	551
22	413	600	381	244	449	419	317	269	344	407	416	553
23	414	602	402	255	521	415	348	264	343	407	420	468
24	413	598	397	272	532	422	333	266	346	408	419	569
25	498	597	358	390	430	418	370	240	344	410	417	470
26	493	596	447	465	444	428	356	255	349	408	416	460
27	493	602	447	470	443	399	327	260	349	423	417	556
28	492	602	444	465	450	410	350	250	354	408	417	600
29	493	603	286	468	451	406	335	266	355	408	414	556
30	519	606	439	447	---	406	334	248	352	424	418	427
31	526	---	442	446	---	404	---	253	---	425	421	---

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	16.0	12.0	4.5	3.5	2.0	5.5	3.0	6.5	3.0	7.5	1.5
2	22.5	15.5	13.0	4.5	4.5	2.0	6.0	4.0	6.0	3.0	8.5	2.5
3	19.0	15.0	13.5	5.5	5.5	4.0	3.5	2.0	6.5	3.0	9.0	3.5
4	19.5	10.0	13.5	6.0	4.5	3.5	5.0	3.0	7.0	3.0	6.0	3.5
5	20.5	14.0	10.0	7.5	5.0	3.5	6.0	3.0	6.0	3.0	5.0	3.5
6	21.0	14.5	12.0	8.0	4.5	2.5	5.0	3.5	5.5	3.0	7.0	2.5
7	21.0	15.0	11.0	9.5	4.0	3.5	2.5	2.0	4.0	1.5	6.0	3.5
8	---	---	13.0	9.0	5.5	3.5	2.0	1.0	5.0	1.0	9.5	2.5
9	---	---	11.0	9.0	6.0	3.0	4.0	2.0	4.5	1.0	9.0	2.5
10	---	---	---	---	6.0	3.0	6.5	3.0	6.0	1.0	10.0	2.5
11	---	---	---	---	3.0	2.0	3.5	2.0	5.5	1.5	9.0	3.0
12	---	---	---	---	3.0	1.5	6.0	1.5	6.0	1.5	8.0	3.0
13	---	---	---	---	3.5	1.5	7.0	4.0	6.5	2.0	10.0	1.5
14	---	---	---	---	4.5	1.0	7.0	4.0	3.5	3.0	11.0	3.0
15	---	---	---	---	5.5	2.0	6.5	4.0	3.0	2.5	11.5	3.5
16	17.0	---	---	---	3.5	1.5	6.0	3.5	6.0	2.0	6.0	3.5
17	21.0	12.0	---	---	4.5	2.5	4.5	3.0	6.0	2.5	8.5	1.0
18	20.0	13.5	---	---	4.5	2.5	4.0	3.5	8.0	3.0	10.0	2.0
19	21.5	13.0	---	---	4.5	2.5	4.5	2.5	8.0	3.0	9.5	3.5
20	20.0	12.0	5.0	5.0	4.5	3.5	5.5	2.0	6.0	3.5	11.0	3.5
21	14.5	11.0	5.0	5.0	5.0	3.0	5.5	2.5	8.0	2.5	11.5	3.5
22	15.0	8.5	5.0	4.5	3.5	2.0	5.0	1.0	6.0	3.0	6.0	4.0
23	15.0	12.5	5.0	2.5	5.5	4.0	5.5	1.5	5.5	3.0	5.5	4.0
24	17.0	12.5	4.0	2.5	5.0	2.5	6.5	2.5	8.0	2.5	10.5	3.0
25	17.0	12.0	4.5	3.5	5.5	3.5	5.0	1.5	8.5	2.5	9.0	4.0
26	17.5	12.0	3.5	2.5	4.5	3.5	2.5	1.5	9.0	3.5	9.0	4.0
27	17.0	12.5	4.0	2.5	5.0	3.0	3.5	1.5	10.0	3.5	5.0	3.5
28	17.0	10.5	3.0	2.5	5.0	3.0	3.0	1.5	9.5	3.0	5.0	3.0
29	13.0	9.5	2.5	2.0	4.5	2.0	3.5	1.5	6.0	2.0	9.5	3.0
30	9.5	6.0	3.0	2.5	5.0	2.0	4.0	1.5	---	---	10.0	3.0
31	12.0	5.0	---	---	5.5	2.0	5.0	1.5	---	---	5.0	4.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.0	4.0	10.0	9.0	15.0	14.0	20.0	17.5	23.0	18.0	22.0	16.0
2	6.0	4.0	10.0	9.5	15.0	13.0	20.0	18.0	23.5	19.0	22.5	16.5
3	9.5	3.0	10.5	9.0	15.5	13.5	20.0	18.0	23.0	19.5	23.0	16.5
4	11.5	3.0	10.5	9.0	15.5	13.5	20.5	18.5	22.5	18.5	22.0	16.0
5	11.0	4.0	10.5	9.0	15.5	14.0	21.0	18.5	22.0	19.5	22.5	16.0
6	11.0	4.0	11.5	10.0	16.0	14.5	21.5	18.0	23.5	19.0	23.0	15.0
7	9.0	4.0	11.0	10.0	15.5	14.5	21.5	18.0	24.0	19.0	23.0	15.5
8	11.5	3.0	11.5	10.5	17.0	14.0	22.0	18.0	21.5	19.0	20.5	16.0
9	11.0	4.0	11.5	10.5	16.0	15.0	22.0	18.5	23.0	18.5	18.0	15.5
10	11.0	5.0	11.5	10.0	16.0	15.0	22.0	19.0	22.5	18.5	20.5	17.0
11	7.0	4.5	10.0	10.0	17.0	15.5	22.0	19.0	24.5	19.0	22.5	16.5
12	8.0	4.5	10.5	10.0	17.0	15.5	23.0	19.5	23.5	18.5	21.5	15.5
13	11.0	4.5	11.0	10.0	16.5	15.5	22.0	19.5	22.0	18.0	22.0	15.5
14	12.5	4.5	11.0	10.0	17.5	15.5	22.5	19.5	21.0	19.0	22.5	15.5
15	13.0	5.0	10.5	10.5	17.0	15.0	23.0	19.5	22.0	18.0	22.5	15.5
16	10.5	5.5	11.0	10.0	18.0	16.0	23.0	19.0	21.0	16.5	20.5	15.0
17	15.0	4.5	10.0	9.5	17.5	16.5	23.0	19.0	22.0	17.5	22.0	14.5
18	16.0	5.5	11.5	9.5	17.5	16.5	22.5	18.5	22.5	18.5	22.0	14.0
19	15.5	6.0	11.0	9.5	17.0	16.5	21.0	19.0	22.5	18.5	22.5	15.0
20	13.0	7.0	11.0	10.0	18.0	17.0	23.5	18.0	22.5	18.0	21.5	15.5
21	13.0	7.5	11.0	10.0	18.0	17.0	22.0	19.0	23.0	17.5	21.0	15.0
22	13.5	8.5	11.5	10.0	18.5	17.0	23.0	19.0	24.0	17.0	20.0	14.0
23	9.5	9.0	11.5	10.0	19.0	17.5	22.5	19.0	22.5	16.0	20.5	13.5
24	9.0	6.0	13.5	10.5	19.0	17.0	23.0	19.0	22.0	16.5	19.5	13.5
25	10.0	8.0	14.0	11.5	19.0	17.0	22.5	19.0	21.5	17.5	19.5	14.0
26	10.5	8.5	13.5	12.0	19.5	17.5	22.5	18.5	23.0	16.5	19.5	14.0
27	11.0	9.0	14.0	12.0	19.5	18.0	22.0	18.0	20.5	16.5	20.5	14.0
28	11.5	9.0	14.5	13.5	20.0	17.5	22.0	18.0	22.0	17.0	21.0	14.5
29	11.0	9.0	14.0	13.0	20.5	17.5	23.5	18.0	21.0	15.0	21.0	16.0
30	10.0	10.0	14.0	12.5	20.0	17.5	23.5	17.5	18.5	15.0	21.5	14.5
31	---	---	14.5	13.0	---	---	24.0	18.5	21.5	15.0	---	---

06710000 SOUTH PLATTE RIVER AT LITTLETON, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 14,79	DEC 6,79	MAR 14,80	MAY 14,80	SEP 10,80
TIME	1300	1245	0900	1045	1020
TOTAL CELLS/ML	1200	660	120	590	33000
DIVERSITY: DIVISION	1.1	1.4	0.0	0.8	0.1
.CLASS	1.3	1.4	0.0	0.8	0.1
..ORDER	1.4	0.0	0.8	0.9	0.2
...FAMILY	1.5	0.0	2.2	0.9	0.2
....GENUS	2.3	0.0	2.4	1.0	0.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...OOCYSTACEAE										
....ANKISTRODESMUS	14	1	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-	*	0
...SCENEDESMACEAE										
....CRUCIGENIA	--	-	40	6	--	-	--	-	--	-
....SCENEDESMUS	29	2	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	5	1	--	-	13	2	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	71	11	26#	22	13	2	*	0
....MELOSIRA	170	14	20	3	--	-	51	9	--	-
....STEPHANODISCUS	29	2	10	2	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	5	1	--	-	--	-	*	0
....RHOICOSPHENIA	--	-	--	-	--	-	--	-	*	0
...CYMBELLACEAE										
....CYMBELLA	--	-	25	4	13	11	--	-	*	0
...DIATOMACEAE										
....DIATOMA	14	1	81	12	39#	33	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	81	12	13	11	13	2	--	-
....FRAGILARIA	--	-	20	3	--	-	--	-	*	0
....SYNEDRA	--	-	--	-	13	11	--	-	*	0
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	--	-	13	11	--	-	--	-
...NAVICULACEAE										
....NAVICULA	--	-	66	10	--	-	13	2	*	0
...NITZSCHIACEAE										
....NITZSCHIA	29	2	30	5	--	-	--	-	*	0
...SURIRELLACEAE										
....SURIRELLA	--	-	15	2	--	-	--	-	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...CHROMULINACEAE										
....CHRYSOCOCCUS	72	6	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE	--	-	25	4	--	-	--	-	--	-
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	*	0
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	140#	21	--	-	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	--	-	--	-	--	-	*	0
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	430#	34	--	-	--	-	--	-	1700	5
....ANABAENOPSIS	--	-	--	-	--	-	--	-	*	0
....APHANIZOMENON	450#	36	--	-	--	-	--	-	31000#	93
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	--	-	490#	83	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	20	3	--	-	--	-	--	-
....TRACHELOMONAS	14	1	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..GYMNODINIALES										
...GYMNODINIACEAE										
....GYMNODINIUM	--	-	5	1	--	-	--	-	--	-
..PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	--	-	5	1	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06710500 BEAR CREEK AT MORRISON, CO

LOCATION.--Lat 39°39'11", long 105°11'43", in SE¼SW¼ sec.35, T.4 S., R.70 W., Jefferson County, Hydrologic Unit 10190002, on left bank at Morrison, 180 ft (55 m) upstream from bridge on State Highway 8 and 0.2 mi (0.3 km) upstream from Mount Vernon Creek.

DRAINAGE AREA.--164 mi² (425 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1887 to September 1891, May 1895 to December 1901, February 1902 (gage heights only), October 1919 to current year. No winter records for water years 1888-90, 1896, 1898, 1900. Monthly discharge only for some periods, published in WSP 1310. Published as "near Morrison" 1900-1902, as "at Starbuck" 1919-28, and as "at Idledale" 1929-34.

REVISED RECORDS.--WSP 976: 1942. WSP 1310: 1888, 1890-91, 1898, 1935(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,780.43 ft (1,761.875 m), National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1934. Oct. 1, 1934, to Oct. 10, 1961, water-stage recorder at site 80 ft (24 m) downstream at same datum.

REMARKS.--Records good. Small diversions for irrigation of about 1,000 acres (4.05 km²) above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--65 years (water years 1891, 1897, 1899, 1901, 1920-80), 53.1 ft³/s (1.504 m³/s), 38,470 acre-ft/yr (47.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,600 ft³/s (244 m³/s), estimated, July 24, 1896; minimum daily, 0.8 ft³/s (0.023 m³/s) Nov. 26, 1939, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 726 ft³/s (20.6 m³/s) at 2130 Apr. 30, gage height, 6.99 ft (2.131 m), only peak above base of 250 ft³/s (7.1 m³/s); minimum daily, 13 ft³/s (0.37 m³/s) Jan. 26.

CORRECTION.--The gage height for the maximum discharge for water year 1979 was published in error. The correct gage height is 6.80 ft (2.073 m), this figure supersedes that published in WDR-CO-79-1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	15	18	20	17	19	20	657	332	126	43	27
2	24	17	20	19	17	26	23	646	315	157	39	25
3	24	21	22	18	17	28	22	618	306	134	38	24
4	25	25	26	18	18	26	22	608	297	118	36	24
5	23	25	23	18	18	22	28	635	300	106	35	24
6	21	20	22	19	18	27	30	630	297	96	32	22
7	20	22	22	16	18	24	32	657	294	92	31	22
8	20	22	20	18	15	22	25	708	267	96	33	22
9	22	22	20	17	16	20	30	696	267	89	42	36
10	22	18	20	15	17	23	35	555	270	89	35	40
11	20	18	20	17	16	26	37	550	270	89	31	30
12	20	20	15	20	17	25	32	500	282	107	30	26
13	20	20	14	20	18	19	33	417	276	91	28	25
14	20	21	18	22	17	22	41	382	261	90	32	24
15	20	21	20	21	18	28	50	408	250	81	60	25
16	18	21	22	18	18	28	52	471	245	72	42	24
17	20	20	21	19	17	18	50	495	232	70	32	25
18	20	22	20	18	19	25	57	440	230	65	30	20
19	20	20	20	20	24	26	70	399	230	64	27	20
20	18	21	20	15	23	26	75	374	215	58	27	22
21	28	18	18	14	22	22	89	366	199	62	25	24
22	22	14	18	14	22	25	96	386	191	59	24	2.
23	23	16	19	14	20	22	119	453	179	57	24	20
24	25	17	20	16	20	18	148	530	169	55	27	20
25	25	18	21	18	22	25	132	500	161	62	36	19
26	25	17	18	13	22	20	141	471	154	55	43	19
27	23	16	18	14	25	19	157	394	146	48	35	18
28	23	15	19	15	29	22	179	362	138	44	30	17
29	22	15	16	15	29	21	208	358	127	42	27	17
30	23	16	15	16	---	20	374	346	123	42	27	16
31	17	---	19	16	---	24	---	343	---	47	28	---
TOTAL	677	573	604	533	569	718	2407	15355	7023	2463	1029	697
MEAN	21.8	19.1	19.5	17.2	19.6	23.2	80.2	495	234	79.5	33.2	23.2
MAX	28	25	26	22	29	28	374	708	332	157	60	40
MIN	17	14	14	13	15	18	20	343	123	42	24	16
AC-FT	1340	1140	1200	1060	1130	1420	4770	30460	13930	4890	2040	1380

CAL YR 1979 TOTAL 23212.6 MEAN 63.6 MAX 515 MIN 4.0 AC-FT 46040
WTR YR 1980 TOTAL 32648.0 MEAN 89.2 MAX 708 MIN 13 AC-FT 64760

06710500 BEAR CREEK AT MORRISON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)
FEB 04...	1515	18	190	7.9	.0	5.0	11.4	56	15	4.0	57	13
JUN 24...	0945	159	80	7.7	12.0	3.0	8.4	31	8.0	2.0	70	9.0
JUL 22...	1245	50	115	7.7	20.5	13	7.0	40	12	2.0	44	11
AUG 18...	1225	23	130	7.5	18.0	--	7.5	48	14	4.0	46	15

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
FEB 04...	3.0	84	3	.99	.00	.60	.20	.80	.43	.40	.0
JUN 24...	6.0	98	6	.16	.00	.00	--	--	.05	.02	.0
JUL 22...	5.0	96	1	.20	.01	.00	.20	.20	.13	.09	.0
AUG 18...	7.0	74	7	.27	.00	.00	.40	.40	.16	.12	.0

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
FEB 04...	280	1	0	1	10	3	535	7	34
JUL 22...	230	0	0	0	--	0	406	0	24

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	THALLIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)	CHLOROPHYLL A PHYTOPLANKTON, UNCORR. (UG/L)
FEB 04...	2	--	0	--	3	.00	1	--	--
JUL 22...	0	0	0	.00	3	.00	0	.0	4.0

06711105 BEAR CREEK BELOW BEAR CREEK LAKE AT LAKEWOOD, CO

LOCATION.--Lat 39°39'26", long 105°07'59", in SW¼SE¼ sec.32, T.4 S., R.69 W., Jefferson County, Hydrologic Unit 10190002, about 100 ft (30.5 m) below gaging station and 3 mi (4.8 km) east of Morrison.

PERIOD OF RECORD.--February to September 1980.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)
FEB 04...	1320	17	290	8.0	3.5	2.0	10.9	105	29	8.0	81	47
JUN 24...	1220	450	120	8.2	15.0	3.0	8.2	45	12	3.0	36	15
JUL 22...	1425	10	210	9.1	26.0	21	6.6	83	23	6.0	52	40
AUG 18...	1430	24	270	8.8	22.0	--	7.6	100	30	6.0	65	58

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
FEB 04...	3.0	178	1	.08	.00	.26	.24	.50	.24	.24	.0
JUN 24...	6.0	108	9	.06	.00	.00	.04	.04	.05	.01	.0
JUL 22...	8.0	164	9	.03	.00	.04	.76	.80	.10	.02	.0
AUG 18...	9.3	162	6	.09	.00	.06	1.0	1.10	.08	.02	.0

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
FEB 04...	160	--	0	1	10	1	206	10	31
JUL 22...	410	0	0	0	7	0	406	0	60

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	THALLIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
FEB 04...	3	--	0	--	3	.00	0	.0
JUL 22...	0	1	0	.00	5	.00	0	.0

06711500 BEAR CREEK AT MOUTH, AT SHERIDAN, CO

LOCATION.--Lat 39°39'08", long 105°01'57", in NW¼NW¼ sec.5, T.5 S., R.68 W., Arapahoe County, Hydrologic Unit 10190002, on left bank just downstream from bridge on road to Fort Logan Mental Health Center, at Highway Department maintenance building at northwest city limits of Sheridan, 1.3 mi (2.1 km) upstream from mouth, and 2.1 mi (3.4 km) west of city hall in Englewood.

DRAINAGE AREA.--260 mi² (673 km²).

PERIOD OF RECORD.--April to November 1914, March 1927 to current year. Monthly discharge only prior to October 1933, published in WSP 1310. Published as "at Sheridan Junction" 1934-41.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,295 ft (1,614 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to Oct. 9, 1953. Oct. 9, 1953, to Aug. 6, 1969, water-stage recorder at present site at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by Bear Creek Lake since July 1979. Storage and diversions above station for irrigation of about 12,000 acres (48.6 km²). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--53 years, 39.3 ft³/s (1.113 m³/s), 28,470 acre-ft/yr (35.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,150 ft³/s (231 m³/s) May 7, 1969, gage height, 10.5 ft (3.20 m), present datum, from flood marks, from rating curve extended above 3,400 ft³/s (96 m³/s); no flow July 13, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,330 ft³/s (37.7 m³/s) at 0100 May 5, gage height, 4.66 ft (1.420 m); minimum daily, 3.0 ft³/s (0.085 m³/s) Apr. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	12	32	32	28	41	23	781	187	77	21	19
2	12	10	34	33	33	34	32	684	245	118	18	16
3	14	9.9	51	32	33	40	27	721	279	119	16	14
4	15	12	45	31	32	41	35	988	281	85	15	13
5	14	11	42	32	32	37	50	1110	290	71	15	13
6	12	11	39	32	31	39	51	958	294	56	16	12
7	12	10	38	28	33	40	50	894	290	42	16	12
8	13	9.8	36	27	30	35	28	816	293	41	19	15
9	15	9.9	35	29	29	33	25	851	294	40	29	39
10	14	10	35	32	32	32	22	773	295	57	31	37
11	14	12	39	30	59	35	32	719	294	48	18	42
12	13	16	33	31	56	36	52	787	293	61	14	38
13	13	11	32	37	13	53	66	750	295	65	15	25
14	12	11	32	37	16	49	93	584	301	48	58	20
15	12	20	35	36	27	14	51	572	296	34	68	17
16	11	26	35	36	29	36	43	470	275	29	52	20
17	12	29	33	33	30	35	21	255	255	24	41	21
18	10	30	33	34	34	26	22	250	253	15	36	25
19	11	32	31	35	36	26	7.0	475	248	15	34	12
20	13	39	31	31	38	40	3.0	626	219	14	30	26
21	36	35	31	31	37	46	7.0	619	174	16	30	28
22	22	30	33	32	36	8.7	20	600	172	17	29	13
23	18	30	36	31	35	9.2	51	600	171	21	29	11
24	16	33	30	35	38	11	241	608	240	28	20	15
25	15	37	31	34	32	13	157	575	83	24	21	14
26	12	38	30	35	34	13	155	577	226	24	29	14
27	11	37	33	36	35	16	183	560	142	19	28	14
28	12	33	33	34	40	21	253	594	92	16	23	14
29	18	31	31	54	45	22	335	339	71	15	18	13
30	14	34	27	74	---	17	618	139	72	16	20	12
31	13	---	29	14	---	18	---	163	---	21	21	---
TOTAL	440	669.6	1065	1058	983	916.9	2753.0	19438	6920	1276	830	584
MEAN	14.2	22.3	34.4	34.1	33.9	29.6	91.8	627	231	41.2	26.8	19.5
MAX	36	39	51	74	59	53	618	1110	301	119	68	42
MIN	10	9.8	27	14	13	8.7	3.0	139	71	14	14	11
AC-FT	873	1330	2110	2100	1950	1820	5460	38560	13730	2530	1650	1160

CAL YR 1979 TOTAL 23486.9 MEAN 64.3 MAX 740 MIN 5.3 AC-FT 46590
WTR YR 1980 TOTAL 36933.5 MEAN 101 MAX 1110 MIN 3.0 AC-FT 73260

06712000 CHERRY CREEK NEAR FRANKTOWN, CO

LOCATION.--Lat 39°21'21", long 104°45'46", in NE¼ sec.15, T.8 S., R.66 W., Douglas County, Hydrologic Unit 10190003, on right bank 1.5 mi (2.4 km) upstream from Russellville Gulch and 2.5 mi (4.0 km) south of Franktown.

DRAINAGE AREA.--169 mi² (438 km²).

PERIOD OF RECORD.--November 1939 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 6,170 ft (1,881 m), from topographic map. See WSP 1730 for history of changes prior to Oct. 1, 1953.

REMARKS.--Records fair except those for winter period, which are poor. Many small diversions above station for irrigation of about 800 acres (3.24 km²). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--40 years (water years 1941-80), 8.61 ft3/s (0.244 m³/s), 6,240 acre-ft/yr (7.69 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,170 ft³/s (260 m³/s) Aug. 5, 1945, gage height, 4.91 ft (1.497 m), site and datum then in use, by float measurement; minimum daily, 0.20 ft³/s (0.006 m³/s) July 13, 1946, Sept. 30, Oct. 1, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 3, 1933, caused by Castlewood Dam failure, exceeded all other observed floods at this location.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 309 ft³/s (8.75 m³/s) at 0230 May 4, gage height, 4.77 ft (1.454 m), only peak above base of 200 ft3/s (5.7 m³/s); minimum daily, 1.1 ft³/s (0.031 m³/s) Oct. 1-3, 6, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.3	3.5	3.6	3.0	22	16	71	8.9	14	2.0	1.6
2	1.1	2.8	3.6	3.8	3.5	21	18	71	8.7	18	1.8	1.5
3	1.1	3.0	3.2	3.8	4.0	22	20	53	8.5	44	1.8	1.4
4	1.2	3.2	2.9	3.7	4.0	23	19	147	7.5	7.6	1.8	1.4
5	1.2	3.0	2.4	3.6	4.0	17	50	53	7.0	5.1	1.8	1.4
6	1.1	2.4	2.4	3.4	4.0	22	73	71	6.2	4.2	1.6	1.3
7	1.2	2.2	2.5	3.2	3.9	24	57	54	5.5	3.6	1.6	1.3
8	1.2	2.2	2.7	3.1	3.6	19	28	73	5.2	3.2	1.6	1.3
9	1.2	2.2	2.9	3.1	3.2	24	34	54	5.1	3.1	1.6	2.3
10	1.2	1.9	3.0	3.2	3.4	32	28	38	5.2	4.0	1.6	2.0
11	1.1	1.9	3.5	3.3	3.5	31	28	27	5.1	3.7	1.6	1.8
12	1.2	2.0	4.5	3.2	3.8	27	24	24	4.6	3.4	1.6	1.8
13	1.2	2.2	4.6	3.4	4.0	20	24	20	4.3	3.0	1.6	1.8
14	1.2	2.1	4.7	4.4	3.8	31	24	20	3.9	3.2	4.8	1.6
15	1.2	2.0	4.3	4.6	3.6	41	20	54	3.6	3.1	9.4	1.5
16	1.2	2.2	4.0	4.2	3.7	33	18	80	3.6	2.9	3.7	1.5
17	1.2	2.0	4.0	3.6	4.0	19	17	77	3.4	15	2.5	1.5
18	1.2	2.0	4.2	3.2	4.8	15	16	67	3.4	8.9	2.0	1.5
19	1.2	2.2	4.3	3.1	5.5	20	14	50	3.2	4.8	1.8	1.4
20	1.2	2.3	4.3	3.0	6.8	16	14	41	3.3	3.8	1.6	1.4
21	1.3	2.4	4.4	2.9	8.0	16	12	30	3.2	3.2	1.6	1.4
22	1.3	2.4	4.2	3.1	9.5	16	9.6	24	3.0	3.3	1.6	1.4
23	1.4	2.5	3.8	3.3	11	14	33	22	2.8	3.9	1.6	1.4
24	1.4	2.4	3.8	3.4	14	13	47	18	2.4	3.5	1.6	1.5
25	1.5	2.2	4.0	3.0	16	16	47	16	2.2	3.2	1.6	1.5
26	1.6	2.2	4.0	2.6	18	14	25	14	2.0	2.7	2.2	1.5
27	1.6	2.2	3.8	2.4	19	14	19	13	2.0	2.4	1.9	1.5
28	1.6	2.2	3.6	2.4	22	13	18	12	1.9	2.4	1.7	1.5
29	1.7	2.2	3.4	2.4	22	9.2	15	11	1.8	2.0	1.6	1.5
30	1.8	2.9	3.3	2.5	---	12	16	10	1.8	2.0	1.6	1.5
31	1.8	---	3.5	2.6	---	22	---	9.4	---	2.0	1.6	---
TOTAL	40.5	69.7	113.3	101.1	219.6	638.2	783.6	1324.4	129.3	189.2	66.4	46.0
MEAN	1.31	2.32	3.65	3.26	7.57	20.6	26.1	42.7	4.31	6.10	2.14	1.53
MAX	1.8	3.2	4.7	4.6	22	41	73	147	8.9	44	9.4	2.3
MIN	1.1	1.9	2.4	2.4	3.0	9.2	9.6	9.4	1.8	2.0	1.6	1.3
AC-FT	80	138	225	201	436	1270	1550	2630	256	375	132	91

CAL YR 1979 TOTAL 2335.2 MEAN 6.40 MAX 187 MIN 1.1 AC-FT 4630
WTR YR 1980 TOTAL 3721.3 MEAN 10.2 MAX 147 MIN 1.1 AC-FT 7380

06712990 CHERRY CREEK LAKE NEAR DENVER, CO

LOCATION.--Lat 39°09'03", long 104°51'13", in NW¼NE¼ sec.2, T.5 S., R.67 W., Arapahoe County, Hydrologic Unit 10190003, 0.8 mi (1.3 km) southwest from intersection of Interstate Highway 225 and Parker Road, 0.2 mi (1.4 km) from right end of dam, 1.6 mi (2.6 km) northwest of intersection of Parker and Airline Roads, and 11.5 mi (18.5 km) upstream from mouth.

DRAINAGE AREA.--385 mi² (997 km²).

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by earthfill dam. Storage began May 15, 1957; dam completed in June 1950. Capacity, 92,820 acre-ft (114 hm³), at elevation 5,598.00 ft (1,706.270 m), crest of spillway. No dead storage. Figures given represent total contents. Reservoir is for flood control and recreation.

COOPERATION.--Records furnished by U.S. Army, Corps of Engineers. Capacity revised on basis of new capacity table dated January 1975.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,120 acre-ft (38.4 hm³) June 3, 1973, elevation, 5,565.82 ft (1,696.462 m); minimum, 9,980 acre-ft (12.3 hm³) Nov. 23, 24, 1978, elevation, 5,545.90 ft (1,690.390 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,220 acre-ft (17.5 hm³) May 24, 25, elevation, 5,551.14 ft (1,691.987 m); minimum, 10,360 acre-ft (12.8 hm³) Nov. 4-11, elevation, 5,546.42 ft (1,690.549 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,546.64	10,530	-
Oct. 31	5,546.44	10,380	-150
Nov. 30	5,546.51	10,430	+50
Dec. 31	5,546.67	10,550	+120
CAL YR 1979			+500
Jan. 31	5,546.82	10,670	+120
Feb. 29	5,546.99	10,790	+120
Mar. 31	5,547.33	11,060	+270
Apr. 30	5,548.29	11,810	+750
May 31	5,551.07	14,150	+2,340
June 30	5,550.58	13,730	-420
July 31	5,550.09	13,300	-430
Aug. 31	5,549.62	12,910	-390
Sept. 30	5,549.21	12,560	-350
WTR YR 1980			+2,030

06712990 CHERRY CREEK LAKE NEAR DENVER, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

REMARKS.--Data supplied by U.S. Army, Corps of Engineers, Omaha District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
FEB						
06...	1210	.0	800	8.4	.5	9.1
06...	1211	1.0	850	8.5	1.0	8.0
06...	1212	3.0	800	8.5	2.0	8.2
06...	1213	9.0	825	8.5	2.0	7.7
06...	1214	16	825	8.5	2.0	7.7
06...	1215	22	825	8.5	2.0	7.2
06...	1216	5.0	--	--	--	--
JUN						
26...	0940	.0	775	8.2	21.5	7.0
26...	0941	1.0	775	8.3	21.5	6.9
26...	0942	3.0	775	8.3	21.5	6.9
26...	0943	9.0	775	8.3	21.0	6.6
26...	0944	16	775	8.2	20.5	5.2
26...	0945	5.0	--	--	--	--
JUL						
24...	1030	.0	725	8.2	23.0	5.6
24...	1031	1.0	725	8.3	23.0	5.5
24...	1032	3.0	750	8.3	22.5	5.4
24...	1033	9.0	750	8.3	22.0	5.6
24...	1034	16	750	8.3	22.0	5.4
24...	1035	22	750	8.2	22.0	4.6
24...	1036	5.0	--	--	--	--
AUG						
22...	1022	.0	750	8.4	21.0	7.4
22...	1023	1.0	750	8.4	21.0	7.4
22...	1024	3.0	750	8.3	21.0	7.2
22...	1025	9.0	750	8.3	20.5	5.8
22...	1026	16	750	8.1	20.0	4.9
22...	1027	22	750	8.1	20.0	4.0
22...	1028	5.0	--	--	--	--

DATE	TIME	SAMPLING DEPTH (FT)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)
FEB 06...	1216	5.0	3.0	242	62	21	212	184	5.0	518
JUN 26...	0945	5.0	5.0	223	60	18	190	150	38	498
JUL 24...	1036	5.0	24	224	60	18	190	143	32	546
AUG 22...	1028	5.0	5.0	227	62	18	192	166	32	484

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	CHLOROPHYLL, TOTAL, PHYTOPLNKTN, UNCORR. (UG/L)
FEB 06...	2	.07	.00	.05	.95	1.00	.04	.00	.3	90
JUN 26...	9	.00	.00	.05	--	--	.06	.01	.0	13
JUL 24...	20	.01	.00	.05	--	--	.09	.00	.6	13
AUG 22...	12	.01	.00	.01	--	--	.07	.01	.2	11

06712990 CHERRY CREEK LAKE NEAR DENVER, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
FEB									
06...	180	1	[illegible]	1	7	5	159	14	26
JUL									
24...	1290	3	0	2	4	0	934	0	104

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	THALLIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
FEB								
06...	4	1	1	--	5	--	0	.0
JUL								
24...	11	2	0	.00	23	.00	0	.0

06713000 CHERRY CREEK BELOW CHERRY CREEK LAKE, CO

LOCATION.--Lat 39°39'12", long 104°51'41", in SW¼SW¼ sec.35, T.4 S., R.67 W., Arapahoe County, Hydrologic Unit 10190003, on right bank 2,000 ft (610 m) downstream from Cherry Creek Dam, 2.2 mi (3.5 km) southeast of Sullivan, 9 mi (14 km) southeast of Civic Center in Denver, and 11 mi (18 km) upstream from mouth.

DRAINAGE AREA.--385 mi² (997 km²).

PERIOD OF RECORD.--June 1950 to current year.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,490.51 ft (1,673.507 m) (Corps of Engineers bench mark).

REMARKS.--Records good. Flow regulated by Cherry Creek Lake (see elsewhere in this report). Diversions above station for irrigation of about 1,800 acres (7.28 km²). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--30 years, 3.81 ft³/s (0.108 m³/s), 2,760 acre-ft/yr (3.40 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,440 ft³/s (40.8 m³/s) July 31, 1956, gage height, 6.07 ft (1.850 m); no flow most of time since May 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood known, 34,000 ft³/s (963 m³/s) Aug. 3, 1933, by slope-area measurement near present site (Castlewood Dam failure).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 75 ft³/s (2.12 m³/s) at 1515 July 13, gage height, 4.03 ft (1.228 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

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        MAY 1    0.69                          July 13   1.4

CAL YR 1979  TOTAL 0.72   MEAN 0.002   MAX 0.35   MIN 0.00   AC-FT 1.4
WTR YR 1980  TOTAL 2.09   MEAN 0.006   MAX 1.4    MIN 0.00   AC-FT 4.1
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06713500 CHERRY CREEK AT DENVER, CO

LOCATION.--Lat 39°44'58", long 105°00'08", in NE¼ sec.33, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on right bank on downstream side of Wazee Street Bridge in Denver, 0.5 mi (0.8 km) upstream from mouth.

DRAINAGE AREA.--409 mi^2 (1,059 km^2).

PERIOD OF RECORD.--August 1942 to September 1969, February to September 1980.

REVISED RECORDS.--WSP 1710: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,175.48 ft (1,577.486 m) National Geodetic Vertical Datum of 1929. See WSP 1730 for history of changes prior to July 16, 1951. July 16, 1951, to Sept. 30, 1969, water-stage recorder at present site and datum.

REMARKS.--Records good. Several diversions above station for irrigation of about 1,900 acres (769 hm^2). Floodflow regulated by Cherry Creek Reservoir 11 mi (18 km) upstream (capacity, 95,960 acre-ft (118 hm^3).

AVERAGE DISCHARGE.--27 years (water years 1943-69), 16.1 ft^3/s (0.456 m^3/s), 11,660 acre-ft/yr (14.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 3,120 ft^3/s (88.4 m^3/s) Aug. 5, 1945, gage height, 5.25 ft (1.600 m) site and datum then in use; maximum gage height, 11.91 ft (3.630 m) June 17, 1965 (backwater from South Platte River); minimum daily discharge, 0.4 ft^3/s (0.011 m^3/s) June 16-18, 1948.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 26, 1885, reached a discharge of 20,000 ft^3/s (566 m^3/s) by float measurement. Flood of May 19, 20, 1864, reached a somewhat higher stage. Flood of Aug. 3, 1933, reached a discharge of about 15,000 ft^3/s (425 m^3/s) as determined by rise of South Platte River at Denver.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period February to September, 712 ft^3/s (20.2 m^3/s) at 1700 Aug. 14, gage height, 3.58 ft (1.091 m); minimum daily, 6.9 ft^3/s (0.20 m^3/s) Mar. 18, 19, 21, 22, 24-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	21	27	168	20	24	20	39
2					---	21	27	33	20	47	19	35
3					---	21	14	18	20	17	20	25
4					---	21	11	15	17	15	20	25
5					---	20	11	12	18	15	13	25
6					---	18	8.2	14	21	16	18	25
7					---	17	7.3	190	19	15	22	25
8					---	15	12	61	17	17	20	26
9					---	16	9.6	21	17	17	19	76
10					---	16	8.2	20	16	81	17	40
11					---	14	28	19	15	26	20	30
12					---	14	14	19	14	19	20	27
13					---	8.9	10	15	14	19	19	31
14					---	7.3	12	26	13	17	83	28
15					---	7.3	9.6	139	13	14	63	25
16					---	10	10	101	14	42	32	18
17					---	8.9	11	79	15	25	30	19
18					---	6.9	12	28	15	20	32	17
19					17	6.9	12	14	17	20	28	15
20					14	12	12	12	20	19	27	30
21					14	6.9	13	16	16	18	27	19
22					10	6.9	13	12	16	18	26	15
23					11	7.3	30	15	15	18	36	13
24					14	6.9	329	15	15	16	27	13
25					8.9	6.9	48	14	14	20	36	14
26					8.2	6.9	17	16	15	19	48	12
27					8.2	18	11	16	15	17	38	12
28					8.2	31	8.9	18	15	15	28	14
29					12	39	8.9	17	15	16	28	15
30					---	20	143	16	15	19	43	10
31					---	21	---	19	---	19	50	---
TOTAL					---	453.0	887.7	1178	486	680	929	718
MEAN					---	14.6	29.6	38.0	16.2	21.9	30.0	23.9
MAX					---	39	329	190	21	81	83	76
MIN					---	6.9	7.3	12	13	14	13	10
AC-FT					---	899	1760	2340	964	1350	1840	1420

06714000 SOUTH PLATTE RIVER AT DENVER, CO

LOCATION.--Lat 39°45'35", long 105°00'10", in NW¼SE¼ sec.28, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on right bank 90 ft (27 m) upstream from Nineteenth Street Bridge in Denver and 0.4 mi (0.6 km) downstream from Cherry Creek.

DRAINAGE AREA.--3,804 mi² (9,852 km²).

PERIOD OF RECORD.--May to October 1889, June to October 1890, July 1895 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1934(M). WSP 1730: 1957(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,157.64 ft (1,572.049 m) National Geodetic Vertical Datum, adjustment of 1960. Prior to Aug. 12, 1909, nonrecording gages, and Aug. 12, 1909, to Aug. 28, 1931, water-stage recorder, at several sites within 0.5 mi (0.8 km) of present site at various datums. Aug. 29, 1931, to June 28, 1965, water-stage recorder at site 70 ft (21 m) downstream at datum 3.66 ft (1.116 m) higher. June 29, 1965, to Mar. 18, 1966, water-stage recorder at site 70 ft (21 m) downstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 79,000 acres (320 km²) and municipal use, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--79 years (water years 1896-1974), 344 ft³/s (9.742 m³/s), 249,200 acre-ft/yr (308 hm³/yr), prior to completion of Chatfield Dam. 5 years (water years 1976-80), 356 ft³/s (10.08 m³/s), 257,900 acre-ft/yr (53.1 hm³/yr), subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,300 ft³/s (1,140 m³/s) June 17, 1965, gage height, 18.66 ft (5.688 m), from flood marks, present datum, from rating curve extended above 2,700 ft³/s (76 m³/s), on basis of contracted-opening measurement of peak flow; minimum daily, 8.8 ft³/s (0.25 m³/s) Mar. 25, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,890 ft³/s (138 m³/s) at 1700 May 7, gage height, 6.59 ft (2.009 m); minimum daily, 72 ft³/s (2.04 m³/s) Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	75	107	161	204	166	426	2540	2670	793	301	290
2	84	74	125	162	189	150	438	2980	2660	987	429	296
3	90	72	227	139	168	152	303	3250	2650	1200	443	274
4	100	86	173	144	156	155	219	3450	2610	1560	508	210
5	94	107	141	149	139	155	232	3650	2590	1170	590	161
6	98	131	124	130	137	146	208	3640	2560	1000	513	108
7	96	265	118	115	152	163	198	3970	2540	705	371	110
8	158	124	118	105	153	145	173	3520	2540	585	333	120
9	255	104	116	107	155	138	228	3400	2520	601	332	487
10	153	106	118	150	184	133	217	3360	2500	931	340	344
11	111	107	152	137	190	128	321	3350	2480	954	326	285
12	100	432	146	155	235	118	297	3410	2460	1020	293	207
13	100	323	154	200	184	119	279	3420	2450	944	299	191
14	100	96	156	232	170	149	285	3310	2430	914	771	146
15	111	83	164	210	176	89	245	3560	2430	760	448	139
16	90	86	181	194	216	132	247	2640	2430	673	282	130
17	79	90	265	186	221	131	213	1570	2420	575	392	133
18	78	90	299	190	228	109	191	1300	2410	458	483	119
19	82	98	294	187	201	125	173	1750	2390	433	478	88
20	79	136	291	181	170	151	266	2900	2370	257	450	182
21	560	126	281	183	162	177	271	2900	2260	406	365	113
22	137	114	284	175	157	105	382	2870	2220	505	245	119
23	182	128	315	155	158	109	457	2870	2190	503	160	120
24	178	226	284	182	196	106	2070	2880	1960	530	130	102
25	100	246	336	163	158	102	1560	2860	1450	552	156	104
26	88	221	327	138	147	106	1500	2860	1560	502	285	103
27	81	220	314	128	141	160	1390	2860	1370	408	317	90
28	79	210	204	129	137	260	1270	2870	888	513	292	102
29	181	194	189	137	149	393	1220	2740	717	454	155	107
30	124	117	172	155	---	252	2040	2700	688	246	199	92
31	78	---	185	145	---	263	---	2700	---	246	229	---
TOTAL	3933	4487	6360	4924	5033	4787	17319	92080	65413	21385	10915	5072
MEAN	127	150	205	159	174	154	577	2970	2180	690	352	169
MAX	560	432	336	232	235	393	2070	3970	2670	1560	771	487
MIN	78	72	107	105	137	89	173	1300	688	246	130	88
AC-FT	7800	8900	12620	9770	9980	9500	34350	182600	129700	42420	21650	10060

CAL YR 1979 TOTAL 127140 MEAN 348 MAX 2510 MIN 48 AC-FT 252200
WTR YR 1980 TOTAL 241708 MEAN 660 MAX 3970 MIN 72 AC-FT 479400

06714130 SOUTH PLATTE RIVER AT 50th AVENUE AT DENVER, CO

LOCATION.--Lat 39°47'13", long 104°58'28", in SW¼ SW¼ sec.14, T.3 S., R.68 W., Denver County, Hydrologic Unit 10190003, on left bank 500 ft (152 m) upstream from Franklin Street Bridge and 2,800 ft (853 m) downstream from Interstate 70 overpass in Denver.

DRAINAGE AREA.--3,810 mi^2 (9,870 km^2), approximate.

PERIOD OF RECORD.--February to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 5,133 ft (1,565 m) from topographic map.

REMARKS.--Records fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 79,000 acres (320 km^2) and municipal use, and return flow from irrigated areas.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period February to September, 4,700 ft^3/s (133 m^3/s) at 2030 July 16, gage height, 8.50 ft (2.591 m); minimum daily, 104 ft^3/s (2.95 m^3/s) Mar. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	227	422	2450	2530	905	326	305
2					---	209	435	2700	2520	1060	465	322
3					---	209	288	2890	2520	1030	478	305
4					---	218	201	3030	2490	1520	524	245
5					---	218	206	3170	2470	1150	609	206
6					---	209	190	3170	2440	998	568	148
7					---	230	181	3440	2430	740	435	151
8					---	212	159	3090	2430	640	382	159
9					---	204	204	3010	2410	668	367	428
10					---	195	192	3010	2400	1010	374	367
11					---	178	301	3020	2390	980	363	305
12					---	141	274	3090	2370	1010	326	227
13					---	136	255	3150	2360	932	322	218
14					---	170	264	3100	2360	908	734	178
15					---	106	230	3340	2350	765	515	173
16					---	134	218	2620	2360	900	308	162
17					---	141	230	1810	2340	627	386	162
18					---	117	215	1560	2330	519	488	151
19					---	129	164	1940	2330	488	483	117
20					---	151	242	2850	2310	308	456	227
21					---	156	255	2810	2200	418	386	141
22					---	151	406	2800	2190	546	284	141
23					---	108	423	2800	2160	532	204	146
24					---	110	2190	2780	1990	537	184	126
25					---	104	1470	2750	1550	568	207	120
26					---	106	1420	2740	1640	528	319	115
27					184	170	1350	2720	1420	439	352	115
28					173	297	1260	2720	980	537	326	120
29					198	416	1210	2600	810	478	190	120
30					---	242	1980	2580	780	284	218	120
31					---	255	---	2550	---	284	261	---
TOTAL					---	5649	16835	86290	63860	22309	11840	5820
MEAN					---	182	561	2784	2129	720	382	194
MAX					---	416	2190	3440	2530	1520	734	428
MIN					---	104	159	1560	780	284	184	115
AC-FT					---	11200	33390	171200	126700	44250	23480	11540

06716500 CLEAR CREEK NEAR LAWSON, CO

LOCATION.--Lat 39°45'57", long 105°37'32", in NW¼NW¼ sec.25, T.3 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank at east edge of Lawson, 30 ft (9 m) downstream from private bridge, and 2.0 mi (3.2 km) downstream from West Fork Clear Creek.

DRAINAGE AREA.--147 mi² (381 km²).

PERIOD OF RECORD.--March 1946 to current year. Records prior to 1959 include inflow from August P. Gumlick Tunnel (formerly Jones Pass tunnel).

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 8,080 ft (2,463 m), from topographic map. Mar. 29, 1946, to Sept. 30, 1967, at site 1.5 mi (2.4 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. Natural flow affected by minor transmountain diversion from Colorado River basin through Berthoud Pass ditch (see elsewhere in this report). No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--34 years, 136 ft³/s (3.852 m³/s), 98,530 acre-ft/yr (121 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,130 ft³/s (174 m³/s) June 4, 1956, gage height, 7.41 ft (2.259 m), site and datum then in use, from rating curve extended above 1,600 ft³/s (45 m³/s), on basis of computation of peak flow over dam, caused by failure of Georgetown Dam on White Reservoir 5.0 mi (8.0 km) upstream; minimum daily, 13 ft³/s (0.37 m³/s) Feb. 20, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,190 ft³/s (33.4 m³/s) at 2300 June 12, gage height, 6.04 ft (1.841 m), only peak above base of 600 ft³/s (17 m³/s); minimum daily, 23 ft³/s (0.65 m³/s) Feb. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	33	38	30	27	28	27	87	340	836	185	94
2	53	42	40	29	27	26	27	77	354	867	180	89
3	54	44	41	29	28	28	27	82	384	799	175	84
4	55	46	38	31	28	27	27	87	444	734	166	82
5	55	41	34	32	28	27	27	101	506	660	159	81
6	52	41	36	31	28	27	27	100	574	603	154	78
7	51	43	36	30	28	27	26	111	602	572	151	77
8	51	42	34	31	23	27	25	111	638	564	154	79
9	52	42	34	31	25	26	26	119	720	527	147	105
10	47	46	34	29	26	27	27	121	830	512	141	97
11	45	40	30	28	26	27	26	133	950	518	134	110
12	44	36	28	28	26	27	26	134	1060	510	130	93
13	44	42	29	30	27	28	25	117	1090	472	128	92
14	46	36	30	30	27	28	26	115	1070	438	129	88
15	46	35	31	30	27	28	28	113	1020	403	140	85
16	47	36	33	30	27	27	29	109	972	376	129	86
17	52	36	32	29	27	27	30	109	947	353	124	84
18	53	40	31	28	28	28	35	100	911	328	117	77
19	53	39	30	28	28	28	40	104	914	317	114	73
20	52	36	30	28	27	27	45	115	900	307	109	80
21	57	33	30	28	27	28	49	140	895	290	99	73
22	46	30	30	25	27	28	57	190	887	281	94	68
23	48	30	29	25	26	28	71	238	900	277	93	67
24	48	29	27	29	26	28	70	286	922	271	114	67
25	45	31	29	29	27	28	56	289	913	265	141	67
26	45	33	29	25	27	27	58	275	898	256	145	69
27	46	30	29	26	27	26	60	262	898	241	116	66
28	40	25	29	25	28	28	65	288	857	226	109	64
29	52	30	28	25	28	27	72	308	777	212	102	61
30	43	34	28	26	---	26	93	305	762	204	99	59
31	36	---	29	26	---	27	---	328	---	195	101	---
TOTAL	1512	1101	986	881	781	846	1227	5054	23935	13414	4079	2395
MEAN	48.8	36.7	31.8	28.4	26.9	27.3	40.9	163	798	433	132	79.8
MAX	57	46	41	32	28	28	93	328	1090	867	185	110
MIN	36	25	27	25	23	26	25	77	340	195	93	59
AC-FT	3000	2180	1960	1750	1550	1680	2430	10020	47480	26610	8090	4750

CAL YR 1979 TOTAL 49662 MEAN 136 MAX 815 MIN 19 AC-FT 98500
WTR YR 1980 TOTAL 56211 MEAN 154 MAX 1090 MIN 23 AC-FT 111500

06719505 CLEAR CREEK AT GOLDEN, CO

LOCATION.--Lat 39°45'11", long 105°14'05", in NE¼NW¼ sec.33, T.3 S., R.70 W., Jefferson County, Hydrologic Unit 10190004, on left bank 100 ft (30 m) downstream from U.S. Highway 6 bridge at west edge of Golden, 0.7 mi (1.1 km) downstream from headgate of Church ditch, and 13.3 mi (21.4 km) downstream from North Clear Creek.

DRAINAGE AREA.--400 mi² (1,036 km²).

PERIOD OF RECORD.--October 1974 to current year. Records for station at site 0.8 mi (1.3 km) upstream (October 1908 to December 1919, June 1911 to September 1974) are not equivalent due to diversions by Church ditch.

GAGE.--Water-stage recorder. Altitude of gage is 5,695 ft (1,736 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by minor transmountain diversions from Colorado River basin through Berthoud Pass ditch (see elsewhere in this report) and several small reservoirs above station. Diversion by Welch ditch 1.4 mi (2.3 km) upstream and by Church Ditch 0.7 mi (1.1 km) upstream for irrigation of about 5,200 acres (21.0 km²) below station. Several observations of water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--6 years, 178 ft³/s (5.041 m³/s) 129,000 acre-ft/yr (159 hm³/yr).

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,860 ft³/s (52.7 m³/s) June 13, 1980, gage height, 5.10 ft (1.411 m); minimum daily, 19 ft³/s (0.54 m³/s) Mar. 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,860 ft³/s (52.7 m³/s) at 0200 June 13, gage height, 5.10 ft (1.411 m); minimum daily, 34 ft³/s (0.96 m³/s) Mar. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	55	54	44	40	40	42	432	920	1040	207	134
2	85	62	58	44	40	42	44	429	904	1240	214	129
3	85	76	59	44	41	48	42	459	904	1060	207	124
4	92	74	56	45	42	44	44	492	980	962	195	122
5	88	71	51	47	42	42	47	533	1110	850	190	121
6	87	62	50	47	42	44	50	568	1220	757	184	118
7	86	63	51	46	42	42	47	608	1190	688	175	114
8	82	62	50	46	38	39	40	630	1200	650	142	114
9	83	61	48	46	36	38	46	621	1330	605	182	149
10	84	59	49	45	38	39	51	587	1360	620	163	145
11	77	64	47	43	39	43	51	589	1490	620	162	154
12	74	57	44	42	39	41	49	555	1610	658	163	136
13	74	54	43	44	40	34	47	482	1670	582	169	131
14	77	66	44	45	40	43	50	448	1600	561	169	130
15	74	58	46	45	40	43	60	450	1560	498	170	123
16	76	58	47	45	42	42	61	458	1530	446	153	119
17	76	58	47	44	42	36	56	468	1460	424	143	120
18	79	60	46	43	44	46	62	450	1380	418	142	112
19	81	62	46	42	44	46	77	453	1330	402	148	104
20	80	60	45	42	44	47	86	455	1360	396	151	111
21	94	56	45	42	47	43	94	542	1300	360	155	108
22	81	53	45	40	46	47	97	691	1240	322	152	97
23	82	53	44	38	46	43	127	852	1250	308	146	91
24	80	52	42	40	46	40	155	1020	1240	299	161	90
25	78	53	42	44	43	46	142	1020	1290	304	203	94
26	72	54	44	40	46	41	145	933	1300	294	185	95
27	68	47	44	38	47	39	159	841	1230	270	155	94
28	68	35	44	38	48	45	177	868	1120	255	147	91
29	68	40	43	38	47	44	203	889	1030	235	139	87
30	75	46	42	38	---	41	302	850	933	226	136	88
31	59	---	43	39	---	45	---	895	---	223	139	---
TOTAL	2454	1731	1459	1324	1231	1313	2653	19568	38041	16573	5147	3445
MEAN	79.2	57.7	47.1	42.7	42.4	42.4	88.4	631	1268	535	166	115
MAX	94	76	59	47	48	48	302	1020	1670	1240	214	154
MIN	59	35	42	38	36	34	40	429	904	223	136	87
AC-FT	4870	3430	2890	2630	2440	2600	5260	38810	75450	32870	10210	6830

CAL YR 1979 TOTAL 74053 MEAN 203 MAX 1290 MIN 25 AC-FT 146900
WTR YR 1980 TOTAL 94939 MEAN 259 MAX 1670 MIN 34 AC-FT 188300

06720000 CLEAR CREEK AT MOUTH, NEAR DERBY, CO

LOCATION.--Lat 39°49'42", long 104°57'30", in SW¼SW¼ sec.36, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190004, on right bank 210 ft (64 m) downstream from York Street bridge, 0.6 mi (1.0 km) upstream from mouth, and 2.5 mi (4.0 km) west of Derby.

DRAINAGE AREA.--575 mi^2 (1,489 km^2).

PERIOD OF RECORD.--April to November 1914, March 1927 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,110 ft (1,558 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to July 16, 1958. July 16, 1958, to Sept. 20, 1965, water-stage recorder at site 50 ft (15 m) upstream at datum 1.56 ft (0.475 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs, diversions for irrigation of about 75,000 acres (304 km^2) above station, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--53 years, 92.5 ft^3/s (2.620 m^3/s), 67,020 acre-ft/yr (82.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,070 ft^3/s (144 m^3/s) July 24, 1965, gage height, 8.97 ft (2.734 m), present datum; minimum daily, 0.4 ft^3/s (0.011 m^3/s) Mar. 11, 1943.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft^3/s (38.5 m^3/s) at 0700 June 13, gage height, 5.14 ft (1.567 m); minimum daily, 3.4 ft^3/s (0.096 m^3/s) Oct. 7, Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	33	24	27	24	79	103	829	663	526	17	4.7
2	4.6	24	26	28	26	72	114	640	661	710	14	5.4
3	4.1	32	60	27	27	79	97	585	635	583	11	4.7
4	3.9	39	51	24	25	86	96	591	642	492	13	5.0
5	4.5	56	47	21	23	74	92	616	721	392	12	5.5
6	3.6	41	38	26	22	76	88	663	681	293	28	5.2
7	3.4	35	33	22	20	92	84	818	663	245	36	7.2
8	3.9	33	29	23	18	81	74	936	679	249	16	11
9	7.1	34	23	28	30	73	74	927	773	255	10	103
10	5.0	30	20	24	44	72	75	831	896	279	8.1	96
11	4.2	25	19	22	55	71	91	808	1020	341	8.0	68
12	4.3	49	20	26	44	73	88	804	1200	390	6.9	45
13	4.8	35	21	52	47	69	78	705	1220	318	6.2	29
14	4.7	29	21	32	77	70	70	659	1180	280	29	26
15	4.2	27	17	23	75	73	67	778	1120	207	118	19
16	3.5	23	16	25	74	76	69	932	1050	196	51	16
17	4.0	23	16	23	77	75	68	800	946	186	22	15
18	4.2	21	14	24	80	60	69	727	833	97	6.9	6.4
19	4.0	20	13	25	93	63	76	653	801	67	7.0	5.0
20	3.9	26	15	26	88	75	82	609	783	42	7.1	29
21	120	27	18	26	79	76	89	658	753	38	7.1	6.7
22	60	36	22	27	77	68	93	729	693	34	9.1	5.1
23	31	36	31	26	75	58	111	860	692	28	6.7	5.2
24	19	37	22	34	87	57	596	990	640	30	8.3	4.9
25	5.5	38	18	34	82	57	270	1030	651	28	32	4.7
26	4.3	32	17	20	81	61	225	935	652	18	71	5.1
27	3.7	26	21	20	83	58	204	815	647	13	170	4.2
28	3.5	22	16	21	85	95	209	760	601	12	22	3.4
29	35	22	15	21	84	105	228	765	518	15	7.9	4.3
30	46	26	18	22	---	84	500	704	472	14	7.1	5.0
31	36	---	30	22	---	79	---	667	---	30	7.0	---
TOTAL	453.0	937	751	801	1702	2287	4180	23824	23486	6408	775.4	554.7
MEAN	14.6	31.2	24.2	25.8	58.7	73.8	139	769	783	207	25.0	18.5
MAX	120	56	60	52	93	105	596	1030	1220	710	170	103
MIN	3.4	20	13	20	18	57	67	585	472	12	6.2	3.4
AC-FT	899	1860	1490	1590	3380	4540	8290	47250	46580	12710	1540	1100

CAL YR 1979 TOTAL 38144.5 MEAN 105 MAX 1630 MIN 3.4 AC-FT 75660
WTR YR 1980 TOTAL 66159.1 MEAN 181 MAX 1220 MIN 3.4 AC-FT 131200

06720415 GRANGE HALL CREEK AT NORTHGLENN, CO

LOCATION.--Lat 39°53'21", long 104°57'40", in NE¼SE¼ sec.11, T.2 S., R.68 W., Adams County, Hydrologic Unit 10190003, on right bank 50 ft (15 m) below south tributary and 800 ft (244 m) east of Irma Drive at Northglenn.

DRAINAGE AREA.--3.08 mi² (7.98 km²) of which 0.03 mi² (0.08 km²) is noncontributing.

PERIOD OF RECORD.--December 1977 to current year.

GAGE.--Water-stage recorder and trapezoidal flume. Altitude of gage is 5,205 ft (1,586 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 876 ft³/s (24.8 m³/s) Aug. 10, 1979, gage height, 4.62 ft (1.408 m); minimum daily, 0.07 ft³/s (0.002 m³/s) Dec. 31, 1978, Jan. 14, 22, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 297 ft³/s (8.41 m³/s) at 0300 Aug. 27, gage height, 3.32 ft (1.012 m); minimum daily, 0.28 ft³/s (0.008 m³/s) Dec. 20, Mar. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	.60	.67	1.1	.70	.60	4.8	9.4	.67	4.0	.60	.53
2	1.1	.46	1.4	.98	.70	.40	4.5	7.1	.60	5.2	.60	.53
3	1.1	.40	2.6	.60	.70	2.4	2.2	4.5	.67	2.3	.60	.53
4	1.3	1.2	1.5	.67	.70	.46	1.8	5.2	.60	3.0	.60	.60
5	.74	.82	1.5	.98	.70	.40	1.6	3.8	.67	1.6	.60	.67
6	.53	.98	1.1	.60	.70	2.4	1.3	3.4	.60	1.3	.53	1.1
7	.40	.98	.74	.34	.60	3.6	1.1	4.1	.67	1.5	.60	.90
8	.40	.98	.60	.40	.50	.90	.90	10	.67	2.4	.98	.98
9	1.6	.98	.60	.34	.50	.67	.74	5.2	.60	2.3	.98	6.2
10	.53	.98	.53	.60	.60	.60	.74	2.4	.74	11	1.1	3.8
11	.60	1.1	.60	.46	.60	.60	1.9	2.9	.82	4.5	1.3	2.0
12	.90	2.5	.67	.50	.60	.74	.60	2.2	.82	2.0	1.6	1.4
13	.98	1.1	.53	.50	.60	.40	.60	1.5	.74	2.0	1.4	1.4
14	1.3	1.1	.53	.60	.60	.34	.60	6.4	1.1	2.0	15	1.3
15	1.6	.82	.60	.82	.60	.28	.60	22	1.8	1.8	11	.98
16	1.3	.60	.40	.98	.60	1.1	.67	17	3.0	1.6	3.8	.90
17	.98	.53	.60	.90	.60	.67	.74	14	2.8	1.2	1.4	.98
18	.90	.53	.60	.90	.60	.46	.90	3.8	2.3	1.0	.82	1.2
19	.82	.53	.67	.90	.60	.74	.74	2.4	2.0	1.0	.74	1.8
20	.67	1.1	.28	.80	.60	1.6	.60	2.0	5.8	1.0	.53	4.4
21	11	1.6	.53	.70	.60	.40	.67	2.3	3.0	.80	.53	2.4
22	2.4	1.3	2.1	.70	.60	.34	.74	3.3	2.0	.80	.60	2.2
23	1.4	2.5	1.3	.70	.50	.40	2.0	2.8	2.0	.80	.60	2.2
24	1.1	2.2	.34	.70	.50	.40	18	1.6	1.8	3.0	.53	2.0
25	.74	2.3	.67	.70	.40	.46	9.2	.67	2.0	1.0	.67	1.8
26	.60	.98	.60	.70	.40	.34	4.2	.60	2.5	1.2	5.2	2.0
27	.46	.90	1.8	.70	.40	2.7	2.8	.60	2.5	1.0	17	2.2
28	.44	.60	1.1	.67	.40	5.3	2.8	.67	2.5	1.0	3.2	2.0
29	3.6	.60	1.2	.70	.46	6.4	2.7	1.9	2.7	.90	2.3	2.2
30	.82	.67	.90	.70	---	1.6	4.5	.60	2.7	1.2	1.4	2.2
31	.82	---	1.4	.70	---	3.5	---	.60	---	.80	.90	---
TOTAL	41.95	31.94	28.66	21.64	16.66	41.20	75.24	144.94	51.37	65.20	77.71	53.40
MEAN	1.35	1.06	.92	.70	.57	1.33	2.51	4.68	1.71	2.10	2.51	1.78
MAX	11	2.5	2.6	1.1	.70	6.4	18	22	5.8	11	17	6.2
MIN	.40	.40	.28	.34	.40	.28	.60	.60	.60	.80	.53	.53
AC-FT	83	63	57	43	33	82	149	287	102	129	154	106

CAL YR 1979 TOTAL 746.83 MEAN 2.05 MAX 65 MIN .07 AC-FT 1480
WTR YR 1980 TOTAL 649.91 MEAN 1.78 MAX 22 MIN .28 AC-FT 1290

NOTE.--NO GAGE-HEIGHT RECORD JAN. 12 TO FEB. 24.

06720500 SOUTH PLATTE RIVER AT HENDERSON, CO

LOCATION.--Lat 39°55'19", long 104°52'00", in SE¼NE¼ sec.34, T.1 S., R.67 W., Adams County, Hydrologic Unit 10190003, on right bank 500 ft (150 m) upstream from bridge on State Highway 22 and 0.2 mi (0.3 km) northwest of Henderson.

DRAINAGE AREA.--4,713 mi^2 (12,207 km^2).

PERIOD OF RECORD.--May 1926 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1934-36(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,003.12 ft (1,524.951 m) National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to June 1, 1960. June 1, 1960, to May 10, 1969, water-stage recorder at site 1,200 ft (370 m) upstream at datum 2.00 ft (0.610 m) higher. May 11 to Oct. 2, 1969, nonrecording gage at site 500 ft (150 m) downstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals, diversions for irrigation of about 253,000 acres (1,020 km^2), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--48 years (water years 1927-74), 366 ft^3/s (10.37 m^3/s), 265,200 acre-ft/yr (327 hm^3/yr), prior to completion of Chatfield Dam; 6 years (water years 1975-80), 446 ft^3/s (12.63 m^3/s), 323,200 acre-ft/yr (399 hm^3/yr), subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft^3/s (935 m^3/s) May 6, 1973, gage height, 11.67 ft (3.557 m), from rating curve extended above 7,200 ft^3/s (200 m^3/s), partly on basis of flow-over-road measurement of peak flow; maximum gage height, 12.93 ft (3.941 m) June 17, 1965, site and datum then in use; minimum daily discharge, 4.4 ft^3/s (0.12 m^3/s) Apr. 1, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,310 ft^3/s (207 m^3/s) at 0200 May 16, gage height, 7.02 ft (2.140 m); maximum gage height, 7.13 ft (9.270 m) May 1; minimum daily discharge, 188 ft^3/s (5.32 m^3/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	316	308	232	294	340	375	688	4700	3120	1050	492	379
2	290	305	232	290	375	367	724	4080	3110	1380	634	420
3	290	297	308	270	347	375	622	4330	3010	1170	594	395
4	305	308	316	300	335	391	582	4470	2980	1530	628	343
5	312	335	305	280	312	375	572	4780	2910	1130	730	297
6	301	269	280	290	301	371	572	4860	2720	847	694	262
7	305	262	272	250	305	407	572	5420	2670	628	535	249
8	343	255	255	280	331	383	550	5310	2700	688	510	255
9	474	249	249	280	327	363	520	4800	2870	769	500	733
10	415	239	252	301	359	367	500	4530	3010	1120	515	505
11	375	232	246	297	510	359	555	4430	3070	1070	545	308
12	347	325	242	297	545	335	555	4530	3200	1190	492	269
13	335	456	246	355	515	320	520	4450	3190	1030	478	252
14	312	339	246	339	525	327	520	4230	3090	970	875	236
15	343	242	242	395	487	327	510	3870	3010	847	1120	232
16	335	226	232	403	510	351	482	4980	2950	604	492	226
17	316	236	242	387	520	451	420	2480	2820	1210	505	223
18	308	226	242	383	550	324	359	2280	2670	496	582	213
19	301	229	232	375	550	316	371	2180	2600	540	530	207
20	219	259	236	367	500	335	411	3480	2620	464	535	266
21	806	246	236	375	478	331	399	3480	2450	594	487	226
22	428	259	240	375	474	308	375	3530	2290	736	433	219
23	308	255	270	355	464	297	324	3640	2270	694	335	219
24	213	272	230	387	500	305	3090	3620	2120	718	351	216
25	197	280	226	391	487	305	2010	3580	1680	769	343	219
26	200	280	240	320	442	308	1750	3490	1570	782	594	219
27	188	252	270	300	367	327	1610	3390	1520	634	833	210
28	191	246	290	290	363	478	1550	3340	1080	682	469	200
29	246	232	280	290	367	636	1450	3140	951	724	355	207
30	327	236	280	310	---	560	2370	3090	944	415	320	213
31	305	---	290	280	---	535	---	3110	---	451	415	---
TOTAL	9951	8155	7959	10106	12486	11609	25533	121600	75195	25932	16921	8418
MEAN	321	272	257	326	431	374	851	3923	2507	837	546	281
MAX	806	456	316	403	550	636	3090	5420	3200	1530	1120	733
MIN	188	226	226	250	301	297	324	2180	944	415	320	200
AC-FT	19740	16180	15790	20050	24770	23030	50640	241200	149100	51440	33560	16700

CAL YR 1979 TOTAL 179794 MEAN 493 MAX 5620 MIN 155 AC-FT 356600
WTR YR 1980 TOTAL 333865 MEAN 912 MAX 5420 MIN 188 AC-FT 662200

06723400 SOUTH ST. VRAIN CREEK ABOVE LYONS, CO

LOCATION.--Lat 40°12'40", long 105°16'47", in NW¼NW¼SW¼ sec.19, T.3 N., R.70 W., Boulder County, Hydrologic Unit 10190005, on left bank 1.0 mi (1.6 km) above confluence of North St. Vrain Creek and 1.1 mi (1.8 km) southwest of Lyons.

DRAINAGE AREA.--80.9 mi^2 (209.5 km^2).

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,400 ft (1,646 m), from topographic map.

REMARKS.--Records fair except those for winter period, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 932 ft^3/s (26.4 m^3/s) June 15, 1979, gage height, 2.92 ft (0.890 m); minimum daily, 3.0 ft^3/s (0.085 m^3/s) Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 820 ft^3/s (23.2 m^3/s) at 1800 Apr. 30, gage height, 2.93 ft (0.893 m); minimum daily, 6.8 ft^3/s (0.19 m^3/s) Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	6.8	11	12	14	16	17	557	154	239	87	36
2	16	9.4	11	12	13	16	18	425	140	286	80	34
3	16	11	11	12	14	16	19	379	145	374	79	34
4	16	13	11	12	14	16	22	392	156	294	79	33
5	14	13	11	14	15	16	27	372	188	209	74	32
6	14	12	12	13	13	17	32	330	205	162	67	32
7	13	13	12	13	13	16	32	332	230	145	64	32
8	13	12	12	13	13	15	28	433	215	158	70	32
9	14	12	11	13	13	16	29	446	285	165	72	36
10	13	9.3	11	13	13	14	31	342	324	163	68	35
11	13	11	11	14	13	16	31	296	428	170	69	31
12	12	9.6	11	14	13	16	28	254	380	146	69	30
13	12	11	10	14	13	15	27	196	394	142	60	30
14	12	11	10	14	13	17	28	162	353	141	56	27
15	12	12	11	15	16	17	33	228	308	129	55	27
16	11	11	11	13	15	18	41	297	266	119	54	26
17	12	11	10	15	14	18	43	336	248	112	53	25
18	11	12	10	14	13	19	50	253	261	109	50	23
19	9.5	11	10	14	14	18	61	200	271	105	47	22
20	10	15	10	14	14	17	73	181	275	103	46	27
21	13	11	10	15	14	18	86	181	281	102	44	25
22	13	15	9.9	15	14	20	96	219	280	109	40	22
23	13	12	10	14	14	18	135	253	265	115	39	22
24	13	12	10	13	16	16	169	273	263	108	40	20
25	12	12	10	12	17	19	140	235	280	109	42	18
26	12	12	10	12	14	17	118	193	262	103	49	15
27	12	12	11	13	15	16	117	152	242	97	47	15
28	12	12	12	13	16	19	116	151	226	94	43	14
29	12	11	13	13	16	18	126	166	155	91	40	14
30	12	11	12	13	---	17	235	147	154	88	40	13
31	8.0	---	12	14	---	17	---	146	---	95	39	---
TOTAL	392.5	346.1	336.9	415	409	524	2008	8527	7634	4582	1762	782
MEAN	12.7	11.5	10.9	13.4	14.1	16.9	66.9	275	254	148	56.8	26.1
MAX	17	15	13	15	17	20	235	557	428	374	87	36
MIN	8.0	6.8	9.9	12	13	14	17	146	140	88	39	13
AC-FT	779	686	668	823	811	1040	3980	16910	15140	9090	3490	1550

CAL YR 1979 TOTAL 30308.2 MEAN 83.0 MAX 834 MIN 5.5 AC-FT 60120
WTR YR 1980 TOTAL 27718.5 MEAN 75.7 MAX 557 MIN 6.8 AC-FT 54980

06724000 ST. VRAIN CREEK AT LYONS, CO

LOCATION.--Lat 40°13'05", long 105°15'34", in NW¼NW¼ sec.20, T.3 N., R.70 W., Boulder County, Hydrologic Unit 10190005, on left bank 75 ft (23 m) southwest of U.S. Highway 36 (State Highways 7 and 66) at southeast edge of Lyons, 400 ft (120 m) upstream from St. Vrain Supply Canal, and 0.4 mi (0.6 km) downstream from confluence of North and South St. Vrain Creeks.

DRAINAGE AREA.--212 mi² (549 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1887 to September 1891, June 1895 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Lyons" 1901, 1903.

REVISED RECORDS.--WSP 1310: 1898, 1900. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,292 ft (1,613 m), from topographic map. Prior to Apr. 6, 1923, nonrecording gages near present site at different datums. Apr. 6, 1923, to Sept. 30, 1956, water-stage recorder at same site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good. Diversions above station for irrigation of about 20,000 acres (80.9 km²). Flow partly regulated by small reservoirs above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--89 years (water years 1888-91, 1896-1980), 129 ft³/s (3.653 m³/s), 93,460 acre-ft/yr (115 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s (297 m³/s) June 22, 1941, gage height, 9.06 ft (2.761 m), present datum, from floodmark, from rating curve extended above 2,100 ft³/s (59 m³/s), on basis of slope-area measurement at gage height 8.90 ft (2.713 m); no flow Jan. 19, 20, 1922, Jan. 12, 13, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in June 1864 and May 1876. Flood in May or June 1894 reached a stage of 9.13 ft (2.783 m), from information by local resident, discharge, about 9,800 ft³/s (278 m³/s). For discussions of these floods, see WSP 997.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,330 ft³/s (67.0 m³/s) at 2100 Apr. 30, gage height, 6.24 ft (1.902 m); minimum daily, 16 ft³/s (0.45 m³/s) Dec. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	16	20	21	32	36	28	1300	472	609	159	99
2	36	18	20	22	27	40	31	1060	454	725	148	65
3	34	23	21	22	26	37	30	1090	448	735	150	64
4	32	24	23	24	25	33	39	1050	466	638	169	62
5	27	26	22	22	26	34	50	990	503	499	166	61
6	27	21	23	25	26	36	61	934	544	421	160	67
7	26	20	21	23	26	34	61	872	615	418	159	81
8	22	20	23	22	26	33	54	865	655	454	153	78
9	32	20	20	28	32	32	51	812	763	462	142	82
10	28	18	21	32	29	30	54	732	803	448	146	86
11	28	21	18	31	27	33	59	725	906	455	137	70
12	26	19	16	31	29	34	55	683	992	429	125	64
13	26	20	19	40	27	28	55	614	1030	403	121	67
14	22	20	22	43	25	35	55	510	950	376	131	72
15	23	21	21	45	23	32	57	524	843	343	139	71
16	29	20	18	35	25	37	68	917	768	311	133	64
17	23	21	20	25	29	32	75	934	718	271	127	60
18	21	21	18	26	29	35	90	888	720	251	118	41
19	23	20	18	26	32	31	103	835	745	254	121	38
20	23	24	18	24	33	30	154	746	793	239	122	57
21	25	22	19	29	30	30	259	697	803	236	119	59
22	30	23	20	24	31	31	339	655	782	239	109	52
23	20	22	19	25	30	29	503	669	736	235	103	46
24	19	22	18	24	32	28	676	697	718	223	104	44
25	18	21	20	24	30	30	669	697	717	229	106	40
26	19	22	20	24	30	26	588	711	693	218	122	39
27	20	20	23	27	32	26	548	620	659	187	115	37
28	20	19	24	37	36	32	484	562	619	162	113	37
29	22	20	19	34	38	29	496	555	486	143	110	39
30	22	21	23	34	---	30	1070	516	484	133	113	39
31	21	---	23	35	---	30	---	490	---	168	114	---
TOTAL	780	625	630	884	843	993	6862	23950	20885	10914	4054	1781
MEAN	25.2	20.8	20.3	28.5	29.1	32.0	229	773	696	352	131	59.4
MAX	36	26	24	45	38	40	1070	1300	1030	735	169	99
MIN	18	16	16	21	23	26	28	490	448	133	103	37
AC-FT	1550	1240	1250	1750	1670	1970	13610	47500	41430	21650	8040	3530

CAL YR 1979 TOTAL 60548.0 MEAN 166 MAX 1020 MIN 8.5 AC-FT 120100
WTR YR 1980 TOTAL 73201.0 MEAN 200 MAX 1300 MIN 16 AC-FT 145200

06724000 ST. VRAIN CREEK AT LYONS, CO--Continued

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 22...	1100	50	60	6.9	6.0	10.1	.4	120	K35	21	--
NOV 27...	0845	15	79	7.5	.0	11.3	.9	4000	205	27	0
DEC 18...	1010	20	80	7.3	1.0	10.7	.6	K38	K25	27	--
JAN 21...	1445	37	85	7.3	.0	12.4	.6	--	--	24	--
FEB 21...	1040	27	110	7.4	3.0	11.0	.8	K8	K5	28	--
MAR 11...	0840	31	95	7.0	1.5	11.6	.7	--	--	38	--
APR 08...	1120	47	100	7.3	7.0	9.6	.6	170	K2	32	--
MAY 06...	1230	966	65	7.1	7.5	9.8	1.1	52	K40	23	--
JUN 09...	1535	768	47	7.1	12.0	8.8	.4	32	K20	13	--
JUL 17...	0845	270	34	6.8	12.0	8.2	.4	360	28	13	--
AUG 13...	1115	114	46	6.9	16.0	7.6	2.6	280	K31	15	--
SEP 16...	1255	64	52	7.3	14.0	8.5	.3	100	K120	18	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT 22...	6.0	1.4	2.8	.3	--	--	8.6	--	--	--	32.0
NOV 27...	7.9	1.8	4.3	.4	.7	27	10	2.1	.2	7.4	--
DEC 18...	7.7	1.8	4.0	.3	--	--	5.6	--	--	--	58.0
JAN 21...	7.0	1.6	4.5	.4	--	--	7.4	--	--	--	56.0
FEB 21...	7.5	2.2	5.2	.4	--	--	9.8	--	--	--	65.0
MAR 11...	11	2.6	5.8	.4	--	--	13	--	--	--	61.0
APR 08...	9.1	2.2	4.9	.4	--	--	12	--	--	--	85.0
MAY 06...	6.5	1.6	3.7	.3	--	--	8.2	--	--	--	71.0
JUN 09...	4.0	.8	2.4	.3	--	--	2.9	--	--	--	38.0
JUL 17...	3.5	1.0	1.7	.2	--	--	1.4	--	--	--	35.0
AUG 13...	4.5	1.0	1.9	.2	--	--	1.5	--	--	--	29.0
SEP 16...	5.5	1.1	2.0	.2	--	--	3.6	--	--	--	41.0

K BASED ON NON-IDEAL COLONY COUNT.

06724000 ST. VRAIN CREEK AT LYONS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT											
22...	--	.04	4.32	.15	.01	.31	.32	.04	--	--	--
NOV											
27...	53.0	.07	2.18	.52	.05	.40	.45	.11	.11	30	4
DEC											
18...	--	.08	3.13	.41	.01	.27	.28	.06	--	--	--
JAN											
21...	--	.08	5.59	.34	.04	.26	.30	.05	--	--	--
FEB											
21...	--	.09	4.74	.50	.02	.29	.31	.04	--	--	--
MAR											
11...	--	.08	5.11	.38	.01	.33	.34	.03	--	--	--
APR											
08...	--	.12	10.9	.38	.03	.27	.30	.05	--	--	--
MAY											
06...	--	.10	185	.24	.01	.88	.89	.04	--	--	--
JUN											
09...	--	.05	78.8	.08	.00	.41	.41	.02	--	--	--
JUL											
17...	--	.05	25.5	.07	.00	.35	.35	.07	--	--	--
AUG											
13...	--	.04	8.93	.09	.00	2.5	2.5	.03	--	--	--
SEP											
16...	--	.06	7.11	.09	.01	.28	.29	.05	--	--	--

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)
AUG										
13...	1115	.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
AUG									
13...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	MIREX, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
AUG									
13...	.00	.00	.00	.00	0	.00	.00	.00	.00

06724500 LEFT HAND CREEK NEAR BOULDER, CO

LOCATION.--Lat 40°07'32", long 105°18'12", in SE¼NE¼ sec.23, T.2 N., R.71 W., Boulder County, Hydrologic Unit 10190005, on right bank 700 ft (213 m) upstream from Lake Ditch diversion, 700 ft (213 m) downstream from Spruce Gulch, and 7.5 mi (12.1 km) north of Boulder.

DRAINAGE AREA.--52.0 mi² (135 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to December 1953, October 1955 to September 1957, October 1976 to current year. Records for May 1929 to September 1931 and April 1947 to September 1949 not equivalent. Records do not include flow of small power ditch, capacity 7.5 ft³/s (0.21 m³/s), which is diverted above station (discharge measurements of the ditch are published for October 1947 to September 1949).

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 5,710 ft (1,740 m), from topographic map. Prior to Mar. 12, 1957, at site 0.9 mi (1.4 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are fair. A large part of flow is water diverted from South St. Vrain Creek for irrigation of lands along Left Hand Creek below station.

AVERAGE DISCHARGE.--10 years (water years 1950-53, 1956, 1957, 1977-80), 39.8 ft³/s (1.127 m³/s), 28,840 acre-ft/yr (35.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 785 ft³/s (22.2 m³/s) Aug. 3, 1951, gage height, 5.39 ft (1.643 m), site and datum then in use; minimum daily, 1.0 ft³/s (0.028 m³/s) Jan. 4, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 4, 1949, reached a discharge of 1,140 ft³/s (32.3 m³/s) at site 0.5 mi (0.8 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 571 ft³/s (16.2 m³/s) at 2030 Apr. 30, gage height, 5.02 ft (1.530 m); minimum daily, 3.2 ft³/s (0.091 m³/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	3.6	7.5	6.3	7.2	6.3	9.9	391	132	144	64	35
2	27	5.2	7.5	6.3	7.8	12	9.9	313	126	136	68	32
3	28	6.6	7.7	6.0	8.1	11	9.9	272	126	116	64	30
4	28	7.0	7.3	6.3	7.7	9.6	11	274	138	117	62	27
5	27	7.0	7.3	6.3	7.7	9.2	13	278	154	117	56	24
6	26	6.6	7.0	6.0	7.7	11	17	260	162	115	52	21
7	26	7.0	7.0	6.0	7.7	10	18	237	165	115	51	18
8	26	6.6	7.0	6.0	7.0	9.9	17	238	160	125	50	20
9	27	6.6	7.0	7.0	8.8	9.9	19	233	160	129	48	32
10	27	5.8	7.0	8.4	8.8	9.2	20	206	161	121	47	38
11	26	6.6	6.0	9.2	7.7	9.6	22	196	159	127	46	40
12	25	4.9	4.4	9.2	7.7	9.6	21	179	160	116	43	39
13	25	6.6	6.3	9.2	8.1	7.3	22	145	159	114	42	38
14	24	6.3	6.6	9.2	8.1	9.6	24	133	156	104	45	34
15	24	6.3	7.0	8.8	8.1	9.9	28	149	153	98	45	28
16	24*	6.3	5.8	8.1	8.4	11	34	227	149	87	41	23
17	23	6.3	6.3	7.3	8.1	8.1	36	269	146	80	36	19
18	9.9	7.0	6.3	8.1	9.2	9.9	41	261	143	80	35	16
19	7.7	6.3	6.3	7.3	9.9	10	47	233	144	73	34	12
20	7.0	3.6	6.0	6.3	9.6	11	57	216	140	69	32	21
21	8.4	6.3	6.0	8.4	9.2	11	66	214	137	66	30	23
22	6.6	8.8	5.8	8.4	9.2	12	78	228	135	64	28	19
23	7.7	8.8	6.0	8.4	8.8	10	107	240	134	64	27	17
24	7.3	8.1	6.3	8.1	8.4	9.6	131	234	132	61	31	15
25	7.0	7.3	5.8	7.3	9.2	11	125	207	131	60	38	13
26	6.6	7.7	5.5	6.6	9.2	10	117	174	133	57	50	12
27	6.3	8.1	4.9	6.8	10	9.2	121	153	149	52	50	11
28	5.8	7.7	5.5	6.8	10	9.9	130	154	145	47	44	9.9
29	7.3	8.8	6.0	7.0	9.9	11	143	156	133	42	39	9.6
30	6.0	8.0	4.9	7.0	---	9.9	256	144	134	44	37	9.6
31	3.2	---	5.2	7.0	---	9.9	---	135	---	50	38	---
TOTAL	529.8	201.8	195.2	229.1	247.3	307.6	1750.7	6749	4356	2790	1373	686.1
MEAN	17.1	6.73	6.30	7.39	8.53	9.92	58.4	218	145	90.0	44.3	22.9
MAX	28	8.8	7.7	9.2	10	12	256	391	165	144	68	40
MIN	3.2	3.6	4.4	6.0	7.0	6.3	9.9	133	126	42	27	9.6
AC-FT	1050	400	387	454	491	610	3470	13390	8640	5530	2720	1360

CAL YR 1979 TOTAL 14562.5 MEAN 39.9 MAX 183 MIN 3.2 AC-FT 28880
WTR YR 1980 TOTAL 19415.6 MEAN 53.0 MAX 391 MIN 3.2 AC-FT 38510

06724500 LEFT HAND CREEK NEAR BOULDER, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 22...	1545	5.7	150	7.4	7.0	9.8	.3	K10	K3	51	--
NOV 27...	1350	8.5	170	7.4	.0	11.2	.4	24	K3	57	42
DEC 18...	1415	6.6	220	7.5	.0	10.5	.5	K9	<1	75	--
JAN 21...	1230	8.7	220	7.4	.0	12.1	.5	--	--	73	--
FEB 21...	1400	9.1	250	9.7	3.0	10.2	.9	--	K5	110	--
MAR 11...	1100	6.5	210	7.3	2.5	11.0	.6	--	--	85	--
APR 07...	1530	18	215	7.7	6.5	9.9	1.2	K5	K2	74	--
MAY 05...	1655	279	135	7.4	8.0	9.8	1.4	K20	--	49	--
JUN 09...	1440	165	61	7.1	13.0	8.6	.4	K22	<2	27	--
JUL 17...	1150	79	42	7.0	16.0	7.4	.3	280	K7	16	--
AUG 13...	1415	42	49	7.0	19.5	7.0	1.2	48	K20	18	--
SEP 16...	0930	22	72	7.3	10.0	9.2	.2	46	K34	25	0

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
OCT 22...	14	4.0	6.4	.4	--	--	45	--	--	--	85.0
NOV 27...	16	4.1	8.1	.5	1.0	15	55	1.0	2.2	11	--
DEC 18...	21	5.4	10	.5	--	--	72	--	--	--	152
JAN 21...	20	5.7	9.1	.5	--	--	71	--	--	--	145
FEB 21...	33	5.8	36	1.5	--	--	70	--	--	--	167
MAR 11...	23	6.6	8.8	.4	--	--	57	--	--	--	135
APR 07...	20	5.8	8.6	.4	--	--	53	--	--	--	147
MAY 05...	13	4.0	5.1	.3	--	--	31	--	--	--	106
JUN 09...	3.0	4.8	2.3	.2	--	--	12	--	--	--	51.0
JUL 17...	4.5	1.2	1.6	.2	--	--	7.1	--	--	--	40.0
AUG 13...	5.2	1.2	4.7	.5	--	--	10	--	--	--	32.0
SEP 16...	7.1	1.8	2.6	.2	--	--	19	--	--	--	43.0

K BASED ON NON-IDEAL COLONY COUNT.

06724500 LEFT HAND CREEK NEAR BOULDER, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 22...	--	.12	1.31	.05	.02	.27	.29	.01	--	--	--
NOV 27...	109	.15	2.50	.22	.04	.18	.22	.00	.01	<10	120
DEC 18...	--	.21	2.71	.24	.06	.20	.26	.01	--	--	--
JAN 21...	--	.20	3.41	.24	.06	.22	.28	.01	--	--	--
FEB 21...	--	.23	4.12	.24	.00	.66	.66	.03	--	--	--
MAR 11...	--	.18	2.37	.25	.01	.36	.37	.00	--	--	--
APR 07...	--	.20	7.14	.34	.01	.83	.84	.03	--	--	--
MAY 05...	--	.14	79.9	.35	.00	1.0	1.0	.09	--	--	--
JUN 09...	--	.07	22.7	.08	.00	.40	.40	.02	--	--	--
JUL 17...	--	.05	8.53	.00	.00	.35	.35	.02	--	--	--
AUG 13...	--	.04	3.66	.00	.00	1.2	1.2	.02	--	--	--
SEP 16...	--	.06	2.55	.00	.00	.25	.25	.02	--	--	--

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)
AUG 13...	1415	.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
AUG 13...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	MIREX, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
AUG 13...	.00	.00	.00	.00	0	.00	.00	.00	.00

06725450 ST. VRAIN CREEK BELOW LONGMONT, CO

LOCATION.--Lat 40°09'29", long 105°00'53", in NW¼NW¼ sec.9, T.2 N., R.68 W., Weld County, Hydrologic Unit 10190005, on left bank 1,600 ft (488 m) upstream from mouth of Boulder Creek, 1.8 mi (2.9 km) downstream from Spring Gulch, and 4.7 mi (7.6 km) southeast of Longmont.

DRAINAGE AREA.--424 mi² (1,098 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,850 ft (1,478 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, diversions for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,380 ft³/s (67.4 m³/s) May 1, 1980, gage height, 6.37 ft (1.941 m); minimum daily, 22 ft³/s (0.62 m³/s) Apr. 25, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,380 ft³/s (67.4 m³/s) at 0100 May 1, gage height, 6.37 ft (1.941 m); minimum daily, 61 ft³/s (1.73 m³/s) Oct. 4, 7, Jan. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	70	113	87	85	99	117	1940	610	201	138	147
2	67	64	109	69	87	112	126	1570	585	246	138	147
3	67	79	96	61	83	138	107	1480	536	293	141	144
4	61	85	105	71	90	129	132	1510	490	254	138	141
5	64	104	109	62	92	120	147	1410	436	180	141	141
6	64	97	95	73	87	129	144	1330	446	150	144	135
7	61	87	88	74	81	126	138	1250	500	141	138	129
8	66	87	85	79	79	120	141	1310	522	144	138	132
9	87	85	81	85	81	117	132	1230	630	150	141	144
10	94	87	83	102	94	115	120	1080	675	153	132	150
11	83	87	79	80	90	112	132	1060	730	153	129	135
12	77	92	70	82	72	107	129	1030	770	165	123	102
13	84	87	78	138	72	104	123	926	740	165	120	97
14	91	83	72	111	74	112	120	812	675	153	138	92
15	76	76	79	102	68	120	123	785	540	141	171	90
16	87	76	66	114	68	120	123	1480	464	135	184	92
17	90	74	70	104	74	112	132	1490	385	138	180	90
18	83	74	76	94	76	115	153	1450	337	138	171	85
19	82	70	72	88	117	112	150	1320	325	147	165	79
20	75	68	72	82	126	110	162	1160	349	150	162	97
21	108	70	72	96	129	112	246	1050	361	153	159	90
22	101	85	76	87	126	115	329	1050	345	153	162	85
23	93	83	79	92	120	115	377	1080	317	150	162	92
24	90	83	66	94	115	94	655	1090	282	153	159	87
25	87	79	76	110	107	79	700	1060	274	150	168	90
26	87	81	76	104	107	79	580	1030	243	141	187	81
27	81	72	79	115	110	79	545	908	222	141	174	74
28	76	70	79	120	110	97	464	818	201	129	165	72
29	79	81	71	117	107	97	446	758	165	129	150	68
30	70	101	66	92	---	110	787	695	162	123	147	68
31	70	---	81	92	---	123	---	640	---	126	150	---
TOTAL	2464	2437	2519	2877	2727	3429	7780	35802	13317	4945	4715	3176
MEAN	79.5	81.2	81.3	92.8	94.0	111	259	1155	444	160	152	106
MAX	108	104	113	138	129	138	787	1940	770	293	187	150
MIN	61	64	66	61	68	79	107	640	162	123	120	68
AC-FT	4890	4830	5000	5710	5410	6800	15430	71010	26410	9810	9350	6300

CAL YR 1979 TOTAL 59612 MEAN 163 MAX 1230 MIN 30 AC-FT 118200
WTR YR 1980 TOTAL 86188 MEAN 235 MAX 1940 MIN 61 AC-FT 171000

06725450 ST. VRAIN CREEK BELOW LONGMONT, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	NITROGEN, DISSOLVED (MG/L AS N)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT 24...	1135	86	1050	8.0	10.0	8.4	3.6	K1700	K22700	430	--	86
NOV 26...	1700	85	1300	8.3	3.0	10.5	5.3	5300	640	470	--	92
DEC 17...	1515	81	1280	8.4	5.5	11.0	6.1	1417	620	520	--	100
JAN 24...	1415	98	1180	8.2	5.0	11.0	3.2	--	--	490	--	97
FEB 22...	1045	115	1300	7.9	3.5	10.8	4.0	650	480	570	--	110
MAR 13...	1150	100	1700	8.0	7.0	12.0	4.1	--	--	710	--	120
APR 09...	1345	131	1300	8.3	11.5	10.6	3.1	3000	<100	480	--	84
MAY 08...	1040	1350	500	7.6	8.0	9.4	1.4	K9300	--	180	--	35
JUN 04...	1230	557	400	7.6	14.0	8.6	1.3	59	K19	140	--	28
JUL 10...	1130	171	1150	7.7	22.5	5.6	5.3	5200	--	480	--	90
AUG 06...	1530	146	1500	8.4	25.0	7.2	4.3	2300	K1400	650	--	110
SEP 15...	1505	93	1300	8.1	21.0	7.8	5.1	--	--	480	0	87

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	SULFATE DISSOLVED (MG/L AS SO4)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 24...	52	73	1.5	390	729	.99	169	2.0	1.00	.60	1.6	.50
NOV 26...	59	81	1.6	430	855	1.16	196	2.0	2.40	.90	3.3	.24
DEC 17...	65	92	1.8	490	971	1.32	212	2.6	2.90	.60	3.5	.30
JAN 24...	59	80	1.6	420	881	1.20	234	2.0	1.30	.00	1.2	.16
FEB 22...	71	90	1.6	530	965	1.31	300	2.2	1.20	.60	1.8	.16
MAR 13...	100	140	2.3	750	1350	1.84	364	1.9	1.40	.80	2.2	.12
APR 09...	66	95	1.9	470	991	1.35	351	1.8	.80	.50	1.3	.13
MAY 08...	23	34	1.1	170	345	.47	1260	.63	.13	.67	.80	.17
JUN 04...	16	22	.8	100	257	.35	387	.53	.23	.51	.74	.09
JUL 10...	63	87	1.7	460	920	1.25	425	2.8	.40	2.1	2.5	.60
AUG 06...	92	140	2.4	720	1320	1.80	520	2.8	.32	1.2	1.5	.49
SEP 15...	63	90	1.8	470	899	1.22	226	3.4	.86	.84	1.7	.68

K BASED ON NON-IDEAL COLONY COUNT.

06725450 ST VRAIN CREEK BELOW LONGMONT, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)
AUG										
06...	1530	.0	.00	.00	.00	.00	.00	.02	.01	.00

DATE	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)
AUG									
06...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	MIREX, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
AUG									
06...	.00	.00	.10	.00	0	.00	.12	.00	.00

06725500 MIDDLE BOULDER CREEK AT NEDERLAND, CO

LOCATION.--Lat 39°57'42", long 105°30'14", in NE¼SE¼ sec.13, T.1 S., R.73 W., Boulder County, Hydrologic Unit 10190005, on left bank at Nederland just downstream from North Beaver Creek and 1,000 ft (300 m) upstream from Barker Reservoir.

DRAINAGE AREA.--36.2 mi^2 (93.8 km^2).

PERIOD OF RECORD.--June 1907 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1730: Drainage area.

GAGE.--Water-stage recorder and compound sharp-crested weir. Datum of gage is 8,186.0 ft (2,495.09 m) Public Service Co. Datum. Prior to Mar. 18, 1909, at datum 4.0 ft (1.22 m) lower. Mar. 18, 1909, to Apr. 23, 1952, at datum 2.5 ft (0.76 m) lower than present datum.

REMARKS.--Records good. No diversion above station. Flow regulated at times by Jasper Lake, capacity, 326 acre-ft (402,000 m^3). North Beaver Creek entered Middle Boulder Creek downstream from station June 1 to Dec. 31, 1907, March 1911 to Dec. 31, 1916. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--73 years, 54.2 ft^3/s (1.535 m^3/s), 39,270 acre-ft/yr (48.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 811 ft^3/s (23.0 m^3/s) June 2, 1914, gage height, 5.37 ft (1.637 m), datum then in use, by computation of peak flow over compound weir; minimum daily, 0.8 ft^3/s (0.023 m^3/s) Jan. 14, 1908.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 504 ft^3/s (14.3 m^3/s) at 2330 June 11, gage height, 3.24 ft (0.988 m); only peak above base of 280 ft^3/s (7.9 m^3/s); minimum daily, 3.2 ft^3/s (0.091 m^3/s) Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	9.5	6.1	4.7	4.3	3.9	5.5	45	252	292	66	25
2	14	9.3	5.9	4.7	4.1	4.1	6.5	44	244	294	64	22
3	13	9.5	5.7	4.7	3.9	4.3	6.1	47	269	292	58	20
4	12	9.3	5.7	5.5	3.7	4.1	5.9	54	328	266	53	18
5	12	9.3	5.7	5.1	3.5	4.3	6.3	66	367	232	51	18
6	12	9.1	5.3	5.1	3.5	4.3	5.9	72	383	204	48	18
7	12	9.1	6.1	4.9	3.7	4.1	5.1	83	367	194	51	18
8	12	8.5	6.1	4.9	3.5	4.5	5.9	86	354	206	50	20
9	12	8.3	6.3	5.1	3.2	3.5	6.7	88	388	217	47	28
10	12	6.3	6.5	5.3	3.5	3.9	6.7	90	420	199	45	28
11	12	5.5	6.3	4.9	3.9	4.3	6.5	92	447	192	43	35
12	12	4.9	5.5	5.3	3.9	3.9	6.9	82	450	180	43	28
13	12	6.3	5.3	5.3	4.5	3.5	6.7	72	431	167	41	26
14	11	6.3	5.1	5.3	4.3	4.7	7.5	69	412	158	43	24
15	11	6.3	5.1	5.1	4.1	5.5	8.9	69	390	145	45	22
16	12	6.5	5.3	4.9	4.1	5.1	9.8	68	362	132	42	20
17	13	6.7	5.1	4.9	4.1	3.5	10	66	349	124	36	19
18	13	6.7	5.1	4.9	4.7	4.7	14	62	354	118	31	17
19	12	6.7	5.3	4.9	4.9	5.3	19	68	346	112	30	16
20	11	5.5	5.3	4.7	5.1	5.1	25	90	338	110	30	28
21	13	6.7	5.1	4.5	4.7	5.7	29	130	349	106	28	26
22	10	6.1	5.1	4.3	4.5	5.5	35	185	346	112	26	22
23	11	6.5	4.9	4.5	4.7	5.1	45	229	344	114	25	20
24	12	6.3	5.3	4.7	4.1	5.3	40	286	349	102	28	18
25	12	6.3	5.5	4.5	4.3	5.1	36	264	338	93	38	17
26	12	6.3	5.3	5.1	4.3	5.9	32	222	312	85	54	16
27	12	6.3	5.5	5.5	4.7	6.3	32	217	307	77	38	15
28	9.3	6.7	5.3	4.5	5.1	5.7	36	246	282	71	33	14
29	10	6.5	4.9	4.5	4.5	5.9	42	254	254	66	29	14
30	9.1	6.3	4.7	4.5	---	6.3	48	239	262	71	28	14
31	9.3	---	4.7	4.9	---	5.5	---	252	---	71	29	---
TOTAL	363.7	213.6	169.1	151.7	121.4	148.9	549.9	3937	10394	4802	1273	626
MEAN	11.7	7.12	5.45	4.89	4.19	4.80	18.3	127	346	155	41.1	20.9
MAX	14	9.5	6.5	5.5	5.1	6.3	48	286	450	294	66	35
MIN	9.1	4.9	4.7	4.3	3.2	3.5	5.1	44	244	66	25	14
AC-FT	721	424	335	301	241	295	1090	7810	20620	9520	2520	1240

CAL YR 1979 TOTAL 21361.2 MEAN 58.5 MAX 346 MIN 4.0 AC-FT 42370
WTR YR 1980 TOTAL 22750.3 MEAN 62.2 MAX 450 MIN 3.2 AC-FT 45130

06727000 BOULDER CREEK NEAR ORODELL, CO

LOCATION.--Lat 40°00'23", long 105°19'49", in NE¼SW¼ sec.34, T.1 N., R.71 W., Boulder County, Hydrologic Unit 10190005, on left bank along State Highway 119, 0.7 mi (1.1 km) southwest of old Orodell, 1.1 mi (1.8 km) upstream from Fourmile Creek, and 2.9 mi (4.7 km) southwest of courthouse in Boulder.

DRAINAGE AREA.--102 mi^2 (264 km^2).

PERIOD OF RECORD.--August to October 1887, April to October 1888, October 1906 to November 1914, March 1916 to current year. Monthly discharge only for some periods, published in WSP 1310. Figures of daily discharge for Feb. 3-10, 17-25, 1912, published in WSP 326, have been found to be unreliable and should not be used. Published as North Boulder Creek, Colorado 1887-88 and as "at Orodell" March 1907 to December 1916.

REVISED RECORDS.--WSP 1310: 1941(M). WSP 1560: 1914(M). WSP 1730: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Altitude of gage is 5,826 ft (1,775.8 m), from topographic map. Prior to Sept. 1, 1907, nonrecording gage, and Sept. 1, 1907, to May 11, 1917, water-stage recorder, at sites 1.1 mi (1.8 km) downstream, just upstream from Fourmile Creek, at different datums.

REMARKS.--Records good. Flow regulated by Barker Reservoir, capacity, 11,500 acre-ft (14.2 hm^3). Low flow during nonirrigation season regulated by Orodell powerplant 1,500 ft (460 m) upstream from station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--72 years (water years 1907-14, 1917-80), 88.7 ft^3/s (2.512 m^3/s), 64,260 acre-ft/yr (79.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,500 ft^3/s (70.8 m^3/s) June 6, 1921, gage height, 4.31 ft (1.314 m), from rating curve extended above 1,200 ft^3/s (34.0 m^3/s); minimum daily, 1 ft^3/s (0.03 m^3/s) Jan. 29, Feb. 1-3, 16-24, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods are known to have occurred in June 1864, May 1876, June 1894, and June 1914, stages and discharges unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 599 ft^3/s (17.0 m^3/s) at 2000 July 2, gage height, 3.57 ft (1.088 m); minimum daily, 3.5 ft^3/s (0.10 m^3/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	4.0	9.0	43	46	47	18	279	132	422	84	60
2	30	4.5	10	43	41	49	10	294	126	485	64	50
3	22	5.0	11	43	44	48	10	274	127	468	73	41
4	25	5.5	30	38	47	48	11	268	132	427	56	23
5	28	6.0	39	43	47	49	13	286	130	373	47	18
6	17	5.5	8.1	42	46	48	15	268	162	314	47	22
7	15	6.0	6.8	41	45	50	15	266	202	276	77	23
8	16	6.5	34	38	45	52	15	264	204	302	75	25
9	18	6.0	34	43	45	50	15	251	373	309	87	49
10	30	5.0	42	39	46	49	18	233	469	299	80	58
11	27	5.5	43	41	45	51	19	239	504	304	81	76
12	25	5.0	43	39	45	51	26	211	499	298	76	68
13	21	5.5	45	42	47	46	17	191	484	272	71	62
14	21	5.5	37	43	46	49	25	177	464	254	96	53
15	20	5.5	43	43	45	54	29	179	444	234	92	51
16	21	6.0	48	42	46	51	36	195	456	192	83	38
17	18	6.5	44	43	45	45	38	214	484	163	74	46
18	19	7.0	47	42	43	53	41	211	479	155	58	34
19	13	6.5	41	43	41	49	48	205	475	154	50	19
20	22	6.0	45	42	46	51	59	197	475	150	58	16
21	20	5.5	41	42	46	51	93	201	489	140	50	24
22	21	5.5	47	43	46	50	103	211	482	142	42	31
23	8.7	6.5	43	44	47	48	135	222	482	139	42	35
24	7.8	7.5	43	42	45	48	150	231	482	128	42	30
25	7.2	8.0	41	45	45	49	141	218	475	137	66	24
26	7.0	9.0	43	47	44	49	133	181	450	122	88	16
27	5.4	8.5	47	44	47	35	137	169	436	109	86	23
28	4.7	8.0	46	45	48	33	156	169	407	91	84	21
29	4.5	7.5	47	45	49	30	164	156	345	70	63	16
30	4.0	8.0	47	45	---	25	219	156	350	70	49	20
31	3.5	---	40	46	---	28	---	142	---	96	66	---
TOTAL	517.8	187.0	1144.9	1321	1318	1436	1909	6758	11219	7095	2107	1072
MEAN	16.7	6.23	36.9	42.6	45.4	46.3	63.6	218	374	229	68.0	35.7
MAX	30	9.0	48	47	49	54	219	294	504	485	96	76
MIN	3.5	4.0	6.8	38	41	25	10	142	126	70	42	16
AC-FT	1030	371	2270	2620	2610	2850	3790	13400	22250	14070	4180	2130

CAL YR 1979 TOTAL 29418.9 MEAN 80.6 MAX 463 MIN 3.5 AC-FT 58350
WTR YR 1980 TOTAL 36084.7 MEAN 98.6 MAX 504 MIN 3.5 AC-FT 71570

06729300 SOUTH BOULDER CREEK AT PINECLIFFE, CO

LOCATION.--Lat 39°55'54", long 105°25'21", in NW¼SW¼ sec.26, T.1 S., R.72 W., Boulder County, Hydrologic Unit 10190005, on left bank 1,200 ft (366 m) upstream from Boiling Creek, 1,600 ft (488 m) downstream from bridge on State Highway 72, and 0.5 mi (0.8 km) southeast of Pinecliffe.

DRAINAGE AREA.--72.7 mi² (188 km²).

PERIOD OF RECORD.--May 1979 to September 1980 (discontinued).

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 7,920 ft (2,414 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,150 ft³/s (32.6 m³/s) June 20, 1979, gage height, 4.32 ft (1.317 m); minimum daily, 12 ft³/s (0.34 m³/s) Apr. 8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 914 ft³/s (25.9 m³/s) at 2400 June 20, gage height, 3.79 ft (1.155 m); minimum daily, 12 ft³/s (0.34 m³/s) Apr. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	21	23	18	15	14	13	116	342	685	173	71
2	65	25	23	18	15	14	14	117	342	590	172	66
3	60	25	23	18	15	14	15	128	352	324	164	63
4	56	25	23	18	15	14	15	151	391	377	150	61
5	52	25	23	18	15	14	15	193	426	483	144	61
6	52	25	23	15	15	14	16	226	448	510	138	61
7	51	25	23	15	15	14	15	264	438	504	140	60
8	50	25	23	15	15	14	12	279	428	513	135	64
9	52	25	20	15	15	14	16	287	453	498	131	86
10	53	25	20	15	15	14	17	284	466	502	124	78
11	52	25	20	15	15	14	16	282	503	456	117	93
12	53	25	20	15	15	13	15	267	503	373	108	74
13	53	25	20	15	15	13	16	241	480	283	105	71
14	52	25	20	15	14	13	17	217	452	261	113	67
15	51	25	20	15	14	13	23	214	421	281	125	65
16	54	25	20	15	14	13	24	214	451	316	112	63
17	55	25	20	15	14	13	25	214	634	304	103	70
18	54	23	20	15	14	13	30	200	715	263	95	68
19	43	23	20	15	14	13	36	208	867	242	91	66
20	50	23	20	15	14	13	40	238	856	232	86	79
21	56	23	20	15	14	13	47	283	832	223	84	72
22	51	23	20	15	14	13	54	388	727	213	80	69
23	52	23	20	15	14	13	73	450	661	208	76	67
24	56	23	20	15	14	13	66	505	623	188	82	67
25	55	23	20	15	14	13	59	496	623	188	108	67
26	54	23	20	15	14	13	56	450	600	200	129	67
27	53	23	20	15	14	13	58	415	639	184	96	64
28	47	23	18	15	14	13	69	429	601	178	86	58
29	42	23	18	15	14	13	83	417	565	189	80	43
30	26	23	18	15	---	13	109	354	591	182	77	38
31	24	---	18	15	---	14	---	341	---	183	79	---
TOTAL	1592	720	636	480	419	415	1064	8868	16430	10133	3503	1999
MEAN	51.4	24.0	20.5	15.5	14.4	13.4	35.5	286	548	327	113	66.6
MAX	68	25	23	18	15	14	109	505	867	685	173	93
MIN	24	21	18	15	14	13	12	116	342	178	76	38
AC-FT	3160	1430	1260	952	831	823	2110	17590	32590	20100	6950	3970

WTR YR 1980 TOTAL 46259 MEAN 126 MAX 867 MIN 12 AC-FT 91750

06729500 SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO

LOCATION.--Lat 39°55'52", long 105°17'43", in SE¼ sec.26, T.1 S., R.71 W., Boulder County, Hydrologic Unit 10190005, on left bank 0.2 mi (0.3 km) downstream from South Draw, 1.0 mi (1.6 km) west of Eldorado Springs, 1.8 mi (2.9 km) downstream from South Boulder diversion canal, 5.0 mi (8.0 km) south of Boulder, and 6.7 mi (10.8 km) downstream from Gross Reservoir.

DRAINAGE AREA.--109 mi² (282 km²).

PERIOD OF RECORD.--April 1888 to October 1892, May 1895 to September 1901, August 1904 to current year. No winter records for water years 1889-92, 1900. Monthly discharge only for some periods, published in WSP 1310. Prior to January 1911, published as "at" or "near Marshall;" January 1911 to December 1913 as "at Eldorado Springs." Records for periods June 1900 to September 1901, August 1904 to September 1908, and October 1909 to September 1911, are not adjusted for diversions by Community ditch and South Boulder and Coal Creek ditch; all other records contain flow in these ditches.

REVISED RECORDS.--WSP 856: 1937(M). WSP 1310: 1937. WSP 1440: 1896. WSP 1710: Drainage area. WSP 1730: 1959-60.

GAGE.--Water-stage recorder. Altitude of gage is 6,080 ft (1,853 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to May 10, 1940.

REMARKS.--Records good except those for winter period, which are fair. Many small diversions above station for irrigation. Water is imported above Gross Reservoir from Colorado River basin through Moffat water tunnel (see elsewhere in this report). Flow regulated since May 1, 1955, by Gross Reservoir, capacity, 43,060 acre-ft (53.1 hm³), 6.7 mi (10.8 km) above station. City of Denver diverts water 1.8 mi (2.9 km) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--24 years (water years 1957-80), 62.7 ft³/s (1.776 m³/s), 45,410 acre-ft/yr (56.0 hm³/yr), unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,390 ft³/s (209 m³/s) Sept. 2, 1938, gage height, 9.24 ft (2.816 m), from floodmarks, site and datum then in use, from rating curve extended above 600 ft³/s (17 m³/s), on basis of slope-area measurement of peak flow; no flow Oct. 15, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 406 ft³/s (11.5 m³/s) at 1400 June 16, gage height, 3.12 ft (0.951 m); minimum daily, 4.8 ft³/s (0.14 m³/s) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	46	25	15	13	14	20	298	133	254	54	16
2	16	32	25	13	13	15	20	246	131	286	54	21
3	14	16	22	12	13	15	20	184	131	302	54	20
4	14	16	19	12	13	17	21	152	128	302	53	16
5	12	16	19	12	13	18	22	128	167	286	49	15
6	10	16	19	12	13	18	24	106	212	262	39	14
7	12	19	15	12	12	19	25	102	236	246	36	14
8	7.2	22	12	12	11	19	25	98	243	215	36	13
9	5.6	26	12	12	11	19	26	83	254	184	35	24
10	5.2	28	12	12	11	20	31	70	290	175	35	28
11	4.8	28	12	12	11	21	32	64	306	164	34	26
12	6.0	28	11	12	11	22	31	56	318	164	33	26
13	9.5	28	11	12	11	23	32	48	310	178	32	26
14	9.5	23	11	12	11	22	35	42	326	170	32	26
15	9.5	19	10	12	11	22	44	48	352	152	34	26
16	9.5	17	10	13	11	22	50	102	375	133	34	20
17	9.0	16	10	15	11	22	50	121	370	111	32	13
18	8.5	16	14	15	11	29	49	118	362	85	25	20
19	9.0	16	16	15	11	26	53	98	370	76	20	18
20	9.0	20	18	15	11	28	56	81	366	81	15	18
21	10	17	14	15	11	26	59	67	326	102	12	15
22	10	17	16	15	11	24	64	59	306	106	12	16
23	9.5	17	16	15	11	23	91	52	298	106	14	17
24	9.0	23	16	15	11	23	118	43	302	96	14	17
25	8.5	25	16	15	11	24	96	36	306	87	20	15
26	10	25	16	15	11	23	94	31	310	89	32	12
27	12	25	16	15	11	22	106	48	306	79	30	14
28	12	25	16	15	13	21	109	91	294	62	23	14
29	14	25	15	14	14	21	104	123	274	56	19	18
30	20	25	15	13	---	20	173	133	262	58	17	19
31	36	---	15	13	---	21	---	133	---	56	16	---
TOTAL	351.3	672	474	417	337	659	1682	3061	8364	4723	945	557
MEAN	11.3	22.4	15.3	13.5	11.6	21.3	56.1	98.7	279	152	30.5	18.6
MAX	36	46	25	15	14	29	173	298	375	302	54	28
MIN	4.8	16	10	12	11	14	20	31	128	56	12	12
AC-FT	697	1330	940	827	668	1310	3340	6070	16590	9370	1870	1100

CAL YR 1979 TOTAL 22408.3 MEAN 61.4 MAX 318 MIN 4.8 AC-FT 44450
WTR YR 1980 TOTAL 22242.3 MEAN 60.8 MAX 375 MIN 4.8 AC-FT 44120

NOTE.--NO GAGE-HEIGHT RECORD DEC. 29 TO MAR. 13.

06730300 COAL CREEK NEAR PLAINVIEW, CO

LOCATION.--Lat 39°52'40", long 105°16'36", in SE¼NE¼ sec.13, T.2 S., R.71 W., Jefferson County, Hydrologic Unit 10190005, on left bank 100 ft (30 m) upstream from culvert on State Highway 72, 1.2 mi (1.9 km) south of Plainview, 4.9 mi (7.9 km) downstream from Beaver Creek, and 9 mi (14 km) north of Golden.

DRAINAGE AREA.--15.1 mi² (39.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,540 ft (1,993 m), from topographic map. Prior to June 17, 1964, water-stage recorder at site 60 ft (18 m) downstream at datum 4.49 ft (1.369 m) lower.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--21 years, 4.65 ft³/s (0.132 m³/s), 3,370 acre-ft/yr (4.16 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,060 ft³/s (58.3 m³/s) May 7, 1969, gage height, 5.30 ft (1.615 m), from rating curve extended above 730 ft³/s (21 m³/s); no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 205 ft³/s (5.81 m³/s) at 1930 Apr. 30, gage height, 2.07 ft (0.631 m); minimum daily, 0.01 ft³/s (0.001 m³/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.61	1.5	2.2	1.2	2.9	5.0	166	19	2.2	.10	.05
2	.10	.61	1.5	2.3	1.4	4.0	4.8	148	17	3.0	.07	.02
3	.10	.61	1.6	2.3	1.4	3.6	4.5	134	14	1.8	.05	.01
4	.13	.67	3.0	2.3	1.5	3.4	5.5	125	13	1.3	.05	.01
5	.13	.87	3.6	2.3	1.9	3.6	7.1	121	12	1.1	.03	.01
6	.13	.80	3.2	2.0	2.0	4.0	9.1	104	10	.94	.03	.01
7	.13	.87	3.0	1.8	2.2	4.0	10	117	9.6	.80	.02	.01
8	.13	.87	2.8	1.4	2.3	3.9	9.1	123	8.3	.94	.03	.01
9	.16	.87	2.8	.94	2.5	3.8	10	112	7.9	.73	.03	.10
10	.16	.87	2.8	.94	1.6	3.9	11	96	7.5	.73	.02	.07
11	.13	.87	2.7	1.5	1.1	3.8	12	87	6.4	.80	.02	.03
12	.13	1.0	2.5	1.8	.87	3.5	12	74	5.8	1.1	.01	.02
13	.13	1.1	2.7	2.5	.37	4.0	12	58	5.5	1.6	.02	.03
14	.13	1.1	2.5	2.7	.94	3.4	18	51	5.2	1.5	.03	.03
15	.13	1.2	2.2	2.7	1.0	3.6	23	56	5.0	1.1	.03	.01
16	.13	1.2	2.0	2.7	1.0	3.6	25	110	4.8	.80	.01	.03
17	.16	1.2	2.0	2.3	.94	3.9	23	115	4.5	.80	.01	.02
18	.19	1.3	1.6	2.2	1.0	3.8	24	100	3.8	.73	.01	.01
19	.19	1.2	1.5	2.5	1.5	3.8	29	89	4.0	.73	.01	.01
20	.23	1.5	1.4	2.7	1.9	4.0	35	80	4.0	.55	.01	.07
21	.61	3.6	1.4	2.5	1.9	4.1	39	80	3.8	.55	.01	.03
22	.61	2.2	1.4	2.5	1.9	4.5	46	87	2.7	.55	.01	.05
23	.55	2.3	1.3	2.2	1.7	4.3	54	89	2.2	.40	.01	.05
24	.55	2.5	1.3	2.0	1.8	3.9	66	74	2.0	.40	.01	.05
25	.55	2.3	1.4	1.6	2.4	4.3	62	58	1.6	.55	.03	.07
26	.55	2.2	1.3	1.0	2.2	4.1	60	46	1.5	.50	.05	.05
27	.55	2.0	1.2	1.0	2.7	3.9	62	38	1.4	.31	.03	.03
28	.55	1.5	1.4	1.0	3.2	4.0	68	32	1.1	.19	.02	.02
29	.61	1.0	1.0	1.0	3.0	4.5	73	29	1.0	.13	.02	.02
30	.67	1.0	1.2	1.2	---	4.7	108	24	1.5	.13	.07	.02
31	.67	---	2.0	1.2	---	4.5	---	21	---	.16	.05	---
TOTAL	9.32	39.92	61.8	59.28	49.92	121.3	927.1	2644	186.1	27.12	.90	.95
MEAN	.30	1.33	1.99	1.91	1.72	3.91	30.9	85.3	6.20	.87	.029	.032
MAX	.67	3.6	3.6	2.7	3.2	4.7	108	166	19	3.0	.10	.10
MIN	.10	.61	1.0	.94	.87	2.9	4.5	21	1.0	.13	.01	.01
AC-FT	18	79	123	118	99	241	1840	5240	369	54	1.8	1.9

CAL YR 1979 TOTAL 3064.91 MEAN 8.40 MAX 89 MIN .05 AC-FT 6080
WTR YR 1980 TOTAL 4127.71 MEAN 11.3 MAX 166 MIN .01 AC-FT 8190

06730300 COAL CREEK NEAR PLAINVIEW, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 05...	1150	E.10	290	7.4	12.0	7.2	72	19
NOV 15...	0945	.14	225	7.5	2.0	10.5	56	23
DEC 07...	0750	1.1	190	7.7	2.0	10.4	47	11
JAN 18...	0930	.79	210	7.3	.0	11.2	54	26
FEB 27...	0840	.93	275	7.2	2.5	11.2	62	39
MAR 13...	1315	3.7	220	7.2	2.0	10.6	55	30
APR 07...	1205	5.1	215	7.0	5.5	9.6	50	32
MAY 05...	1155	82	95	7.7	6.5	8.6	29	12
JUN 09...	1050	3.5	100	7.3	12.0	8.4	29	8
JUL 14...	1050	.32	165	7.8	17.5	7.0	46	2
AUG 12...	1000	E1.0	420	7.3	19.0	7.8	100	29
SEP 18...	1220	.20	600	7.8	17.0	9.3	130	34

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 05...	19	6.0	25	1.3	1.6	53	13	41	.3
NOV 15...	15	4.6	18	1.0	1.4	33	11	34	.2
DEC 07...	13	3.6	16	1.0	1.0	36	13	30	.2
JAN 18...	15	3.9	17	1.0	1.1	28	8.2	34	.2
FEB 27...	17	4.7	21	1.2	1.3	23	12	54	.2
MAR 13...	15	4.3	17	1.0	1.2	25	10	41	.2
APR 07...	14	3.7	16	1.0	1.2	18	12	38	.1
MAY 05...	8.1	2.1	8.2	.7	.8	17	9.4	8.4	.3
JUN 09...	7.9	2.2	7.1	.6	.9	21	12	7.7	.1
JUL 14...	13	3.4	13	.8	1.3	44	4.9	15	.4
AUG 12...	27	8.7	50	2.1	2.0	74	16	90	.4
SEP 18...	33	12	66	2.5	2.3	98	19	120	.3

E ESTIMATED.

06730300 COAL CREEK NEAR PLAINVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 05...	16	154	.21	E.04	.02	.00	300	40
NOV 15...	13	117	.16	.04	.04	.01	120	20
DEC 07...	11	111	.15	.33	.32	.02	70	10
JAN 18...	12	110	.15	.23	.29	.00	60	6
FEB 27...	12	138	.19	.35	.43	.00	40	5
MAR 13...	11	117	.16	1.17	.41	.00	50	10
APR 07...	11	110	.15	1.51	.62	.01	90	10
MAY 05...	14	64.0	.09	14.2	.50	.03	120	4
JUN 09...	14	65.0	.09	.61	.00	.00	100	9
JUL 14...	14	92.0	.13	.08	.00	.00	40	10
AUG 12...	16	255	.35	E.69	.01	.03	110	40
SEP 18...	1.0	313	.43	.17	.02	.01	60	20

E ESTIMATED.

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO

LOCATION.--Lat 40°09'08", long 105°00'52", in NW¼SW¼ sec.9, T.2 N., R.68 W., Weld County, Hydrologic Unit 10190005, on left bank 0.6 mi (1.0 km) upstream from mouth, 1.0 mi (1.6 km) downstream from State Highway 254, and 4.8 mi (7.7 km) southeast of Longmont.

DRAINAGE AREA.--439 mi² (1,137 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1927 to September 1949, May 1951 to September 1955, October 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,860 ft (1,481 m), from topographic map. Prior to June 10, 1939, at site 0.8 mi (1.3 km) upstream at different datum. June 10, 1939, to Sept. 30, 1949, at site 1.0 mi (1.6 km) upstream at different datum. May 1, 1951, to Sept. 30, 1955, at site 1.4 mi (2.3 km) upstream at different datum.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,410 ft³/s (125 m³/s) Sept. 3, 1938, gage height, 6.94 ft (2.115 m), site and datum then in use, from rating curve extended above 340 ft³/s (9.63 m³/s), on basis of slope-area measurement of peak flow; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,990 ft³/s (56.4 m³/s) at 0730 May 1, gage height, 5.04 ft (1.536 m); minimum daily, 2.4 ft³/s (0.068 m³/s) June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	26	54	118	166	113	127	1740	250	32	5.3	6.8
2	15	29	60	86	219	115	120	1520	231	134	4.4	5.3
3	14	28	64	83	177	123	116	1320	181	193	4.7	5.1
4	8.8	32	64	88	108	119	128	1160	128	136	4.0	4.3
5	8.8	40	64	81	106	107	148	1120	101	90	4.7	4.4
6	26	37	70	91	103	102	157	989	91	50	3.1	4.0
7	30	39	70	105	103	108	159	900	116	11	3.1	3.8
8	48	42	70	114	102	105	134	1080	106	2.7	3.7	4.5
9	67	37	70	107	100	105	122	1060	158	37	5.5	6.1
10	66	40	70	120	126	102	116	870	324	40	4.7	9.8
11	62	35	70	98	102	101	126	829	349	65	5.3	20
12	57	39	72	108	102	100	122	866	360	89	5.1	34
13	57	40	76	124	107	96	147	705	297	91	5.9	34
14	55	40	80	112	104	98	145	620	267	61	7.2	14
15	54	39	80	101	101	102	140	623	180	28	34	8.9
16	55	42	84	84	105	114	146	1090	168	10	25	7.2
17	58	40	84	96	100	111	156	972	250	5.4	8.8	6.8
18	44	38	90	92	99	106	159	1130	239	4.8	4.9	5.6
19	34	39	90	91	117	115	157	905	237	8.1	5.1	6.0
20	25	40	85	86	110	114	174	792	239	6.1	2.9	11
21	52	40	87	99	130	117	202	764	246	5.7	3.3	4.8
22	49	40	83	95	133	106	216	722	214	7.5	5.8	3.3
23	44	40	83	102	128	106	272	670	195	8.9	7.6	3.8
24	34	40	67	102	125	107	622	622	146	12	8.8	4.4
25	31	45	70	110	124	111	631	573	151	41	7.2	16
26	31	47	72	106	122	111	488	485	143	43	14	12
27	25	47	77	113	115	112	435	421	145	28	12	11
28	26	50	83	126	117	120	422	365	76	11	8.4	10
29	27	50	84	127	121	123	430	325	20	5.2	5.2	8.4
30	35	52	101	129	---	125	557	300	2.4	5.1	5.6	14
31	29	---	113	131	---	130	---	272	---	4.4	7.3	---
TOTAL	1181.6	1193	2387	3225	3472	3424	7074	25810	5610.4	1265.9	232.6	289.3
MEAN	38.1	39.8	77.0	104	120	110	236	833	187	40.8	7.50	9.64
MAX	67	52	113	131	219	130	631	1740	360	193	34	34
MIN	8.8	26	54	81	99	96	116	272	2.4	2.7	2.9	3.3
AC-FT	2340	2370	4730	6400	6890	6790	14030	51190	11130	2510	461	574

CAL YR 1979 TOTAL 34888.5 MEAN 95.6 MAX 926 MIN 5.2 AC-FT 69200
WTR YR 1980 TOTAL 55164.8 MEAN 151 MAX 1740 MIN 2.4 AC-FT 109400

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
OCT 24...	1500	32	810	9.1	14.0	16.2	K250	97	270
NOV 26...	1230	46	825	8.1	3.0	12.4	1716	1380	270
DEC 17...	1240	83	400	7.9	3.0	11.2	2700	520	130
JAN 24...	1045	116	430	7.9	3.0	10.8	20000	470	140
FEB 22...	1350	103	640	8.0	5.0	11.0	K750	590	210
MAR 11...	1530	79	650	8.6	10.0	12.3	--	--	210
APR 09...	1030	121	780	8.0	8.0	11.6	5000	1300	260
MAY 08...	1445	927	430	7.8	10.5	8.5	--	>1600	160
JUN 04...	1515	125	420	8.6	21.5	10.0	K4	K2	150
JUL 10...	1350	32	1000	8.3	26.5	6.8	--	1400	380
AUG 06...	1135	3.5	1300	8.6	23.0	15.5	K380	4000	530
SEP 15...	1140	8.3	1200	8.5	20.0	13.4	500	K500	420

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT 24...	71	51	35	67	1.8	5.8	200	200	23
NOV 26...	56	52	33	71	1.9	6.0	210	180	26
DEC 17...	28	25	16	34	1.3	2.3	100	85	9.7
JAN 24...	52	28	16	33	1.2	1.3	84	87	12
FEB 22...	83	44	25	47	1.4	2.9	130	160	18
MAR 11...	59	41	26	53	1.6	2.9	150	160	17
APR 09...	77	55	29	56	1.5	4.0	180	170	21
MAY 08...	61	34	17	28	1.0	3.3	94	95	9.6
JUN 04...	59	33	16	29	1.0	2.6	89	100	10
JUL 10...	230	62	54	61	1.4	3.4	150	330	14
AUG 06...	260	87	77	120	2.3	6.0	270	460	26
SEP 15...	170	68	61	92	2.0	4.3	250	330	23

K BASED ON NON-IDEAL COLONY COUNT.

06730500 BOULDER CREEK AT MOUTH NEAR LONGMONT, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)
OCT 24...	1.0	6.9	526	.72	45.4	3.6	1.40	30	4
NOV 26...	1.0	9.5	515	.70	64.0	2.3	1.60	40	150
DEC 17...	.5	5.1	241	.33	54.0	.79	.07	40	70
JAN 24...	.5	5.2	237	.32	74.2	.78	.70	40	50
FEB 22...	.8	5.6	385	.52	107	.83	.57	20	60
MAR 11...	.7	5.1	400	.54	85.3	.93	.69	40	50
APR 09...	.8	7.3	457	.62	149	1.2	.77	30	90
MAY 08...	.5	13	261	.36	653	.82	.10	80	40
JUN 04...	.6	9.0	257	.35	86.7	.63	.35	50	20
JUL 10...	1.1	7.4	628	.85	54.3	1.2	.17	10	40
AUG 06...	1.1	7.7	964	1.31	9.14	3.7	.03	40	40
SEP 15...	1.1	8.5	746	1.01	16.9	1.8	.35	20	30

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO

LOCATION.--Lat 40°15'29", long 104°52'45", in SE¼NW¼ sec.3, T.3 N., R.67 W., Weld County, Hydrologic Unit 10190005, on right bank 140 ft (43 m) downstream from bridge on county road, 1.3 mi (2.1 km) upstream from mouth, and 4.2 mi (6.8 km) northwest of Platteville.

DRAINAGE AREA.--976 mi^2 (2,528 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1904 to December 1906, April to December 1915, March 1927 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 956: 1938(M). WSP 1440: 1934, 1935(M). WSP 1730: 1958, drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,740 ft (1,445 m), from topographic map. See WSP 1730 for history of changes prior to Apr. 25, 1960.

REMARKS.--Records good. Diversions above station for irrigation of about 177,000 acres (716 km^2). Flow partly regulated by many small reservoirs above station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--55 years (water years 1905-6, 1928-80), 209 ft^3/s (5.919 m^3/s), 151,400 acre-ft/yr (187 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft^3/s (320 m^3/s) Sept. 3, 1938, gage height, 8.93 ft (2.722 m), site and datum then in use, from rating curve extended above 4,700 ft^3/s (133 m^3/s); minimum daily, 12 ft^3/s (0.34 m^3/s) Apr. 23, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,860 ft^3/s (138 m^3/s) at 1500 May 1, gage height, 8.07 ft (2.460 m); minimum daily, 102 ft^3/s (2.89 m^3/s) Nov. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	176	189	202	267	289	361	3470	883	330	199	284
2	155	174	189	200	297	297	365	3890	862	515	214	274
3	154	173	197	198	318	340	352	3260	794	721	219	277
4	155	175	235	194	297	363	366	3110	689	632	200	254
5	145	195	266	189	315	329	400	2860	564	494	190	246
6	144	199	264	204	299	318	412	2650	538	362	194	235
7	157	190	230	192	260	340	406	2350	626	292	189	232
8	155	187	209	190	236	330	370	2650	649	225	190	229
9	177	191	215	192	217	330	350	2700	788	267	223	253
10	190	192	217	203	230	328	329	2220	1070	285	226	293
11	190	185	220	197	239	337	342	1960	1180	311	211	284
12	184	190	207	203	233	332	344	2120	1320	375	198	247
13	183	193	207	261	239	319	345	1820	1280	424	200	240
14	183	191	208	322	239	317	320	1600	1200	401	228	216
15	179	183	210	280	225	318	309	1400	927	352	355	190
16	178	184	206	272	217	322	303	3180	770	308	392	184
17	186	187	196	268	220	310	333	3440	750	279	352	181
18	185	188	208	260	231	312	332	3930	678	271	315	172
19	181	186	205	243	272	315	332	3220	638	280	292	163
20	179	196	195	230	348	308	350	2680	728	290	281	183
21	205	102	198	217	332	305	423	2340	764	270	259	202
22	220	185	197	233	363	302	530	2160	719	273	262	179
23	223	222	203	226	336	305	606	2160	668	253	277	193
24	211	222	188	247	318	298	1160	2170	560	255	270	192
25	203	235	189	259	314	273	1910	1960	549	273	273	210
26	194	237	199	193	308	275	1330	1850	511	308	304	189
27	183	208	204	168	319	273	1140	1600	495	310	300	179
28	178	193	202	188	329	308	1010	1300	420	284	297	176
29	179	180	210	230	327	313	974	1150	344	238	265	169
30	186	182	190	218	---	335	1150	1050	278	209	263	161
31	177	---	192	224	---	340	---	973	---	198	275	---
TOTAL	5570	5701	6445	6903	8145	9781	17254	73223	22242	10285	7913	6487
MEAN	180	190	208	223	281	316	575	2362	741	332	255	216
MAX	223	237	266	322	363	363	1910	3930	1320	721	392	293
MIN	144	102	188	168	217	273	303	973	278	198	189	161
AC-FT	11050	11310	12780	13690	16160	19400	34220	145200	44120	20400	15700	12870

CAL YR 1979 TOTAL 121265 MEAN 332 MAX 3160 MIN 80 AC-FT 240500
WTR YR 1980 TOTAL 179949 MEAN 492 MAX 3930 MIN 102 AC-FT 356900

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1955 to August 1956, September 1965 to September 1968, October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT								
26...	0915	185	1280	7.5	9.0	7.7	470	250
NOV								
08...	1415	173	1300	--	9.0	9.6	490	270
DEC								
07...	1040	204	1340	--	2.0	9.8	510	290
JAN								
17...	1330	308	1250	7.8	3.5	9.8	460	250
FEB								
14...	1335	257	1130	7.5	2.0	10.0	360	190
MAR								
20...	0850	237	1700	8.0	5.5	8.6	580	390
APR								
10...	0840	340	1600	8.0	8.0	8.0	570	380
MAY								
22...	0950	2240	560	7.9	14.0	7.8	180	110
JUN								
11...	1600	1210	360	7.6	18.0	7.1	110	59
JUL								
08...	0830	210	1500	7.9	19.5	6.4	530	330
AUG								
07...	0950	187	1880	7.9	20.0	--	640	410
SEP								
24...	1500	200	1600	8.2	18.0	9.0	600	370

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
OCT									
26...	89	60	98	2.0	5.3	220	430	24	1.0
NOV									
08...	92	62	100	2.0	5.0	220	450	28	1.0
DEC									
07...	100	64	100	1.9	4.7	220	450	30	1.0
JAN									
17...	90	58	94	1.9	4.7	210	420	24	.9
FEB									
14...	69	46	80	1.8	4.2	170	330	23	.8
MAR									
20...	100	81	120	2.2	4.6	190	610	24	1.0
APR									
10...	100	78	110	2.0	4.6	190	550	24	.8
MAY									
22...	36	23	33	1.1	2.4	77	160	8.0	.5
JUN									
11...	23	13	20	.8	1.8	52	93	5.7	.6
JUL									
08...	100	69	110	2.1	3.6	200	510	18	1.2
AUG									
07...	110	89	160	2.8	6.6	230	700	32	1.2
SEP									
24...	100	86	140	2.5	4.2	230	590	32	1.2

06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
OCT 26...	8.4	863	1.17	431	3.3	.56	60	60
NOV 08...	8.6	897	1.22	419	4.0	.56	30	60
DEC 07...	10	905	1.23	498	2.8	.39	50	120
JAN 17...	8.8	837	1.14	696	2.3	.52	20	100
FEB 14...	8.1	673	.92	467	2.1	.79	20	100
MAR 20...	6.1	1070	1.46	685	2.6	.37	10	110
APR 10...	6.9	1000	1.36	918	2.6	.32	10	90
MAY 22...	11	324	.44	1960	.80	.08	70	20
JUN 11...	7.4	199	.27	650	.66	.09	30	10
JUL 08...	11	958	1.30	543	3.4	.25	<10	60
AUG 07...	8.1	1260	1.71	636	4.4	.22	10	60
SEP 24...	7.5	1120	1.52	605	3.6	.18	20	60

06733000 BIG THOMPSON RIVER AT ESTES PARK, CO

LOCATION.--Lat 40°22'42", long 105°30'48", in NW¼NW¼ sec.30, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, on right bank in Estes Park, 600 ft (180 m) downstream from bridge on State Highways 7 and 66, 900 ft (270 m) downstream from Black Canyon Creek, and 0.3 mi (0.5 km) northwest of Estes powerplant. Station is upstream from Lake Estes.

DRAINAGE AREA.--137 mi² (486 km²).

PERIOD OF RECORD.--October 1946 to current year. Prior to October, 1947, published as Thompson River at Estes Park.

GAGE.--Water-stage recorder and Parshall flume with overflow weirs. Datum of gage is 7,492.5 ft (2,283.71 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to May 18, 1949, at site 740 ft (230 m) downstream at different datum. May 18, 1949, to Mar. 22, 1951, at site 60 ft (18 m) upstream at datum 1.2 ft (0.37 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Diversion from Colorado River basin to Big Thompson River basin above station through Alva B. Adams tunnel began Aug. 10, 1947, and ended Aug. 2, 1950. Small power developments and small diversions for irrigation and municipal use above station. Diversions above station from Wind River to Lake Estes (bypassing this station) were 1,480 acre-ft (1.82 hm³) during current year. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--34 years, 126 ft³/s (3.568 m³/s), 91,290 acre-ft/yr (113 hm³/yr), adjusted for inflow from Alva B. Adams tunnel Aug. 10, 1947, to Aug. 2, 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,660 ft³/s (47.0 m³/s) June 18, 1949, gage height, 3.16 ft (0.963 m), site and datum then in use; maximum gage height, 6.89 ft (2.100 m) June 17, 1965; minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft³/s (17.0 m³/s) and maximum (*):

Date	Time	Discharge		Gage height		Date	Time	Discharge		Gage height	
		(ft³/s)	(m³/s)	(ft)	(m)			(ft³/s)	(m³/s)	(ft)	(m)
June 12	0300	*1,470	41.6	6.58	2.006	July 1	0330	1,140	32.2	5.97	1.820

Minimum daily discharge, 11 ft³/s (0.31 m³/s) Jan. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	22	21	16	15	14	17	151	523	878	225	77
2	36	26	22	15	16	17	16	140	506	981	209	65
3	36	27	20	14	16	15	16	168	546	925	201	62
4	36	27	22	15	16	16	17	185	657	760	191	59
5	33	25	24	15	15	16	17	195	814	626	175	58
6	33	23	20	14	16	16	17	216	897	540	164	57
7	31	25	20	13	16	16	16	224	853	508	159	56
8	30	23	21	13	14	16	17	244	860	514	171	59
9	31	22	22	14	16	14	17	257	1020	506	171	87
10	30	23	22	14	17	13	17	255	1150	519	166	83
11	28	26	20	13	15	14	16	255	1290	525	164	84
12	28	24	20	14	17	16	17	235	1300	551	152	80
13	28	27	21	16	17	16	17	197	1190	485	139	82
14	28	25	18	16	16	17	18	179	1100	421	131	72
15	27	26	15	15	16	16	24	200	1000	387	164	67
16	28	26	15	14	17	18	28	210	878	355	172	64
17	29	25	14	14	17	15	29	215	840	332	149	54
18	29	22	15	13	16	17	36	198	897	309	124	49
19	28	22	16	13	15	16	45	206	846	297	108	45
20	30	17	16	12	14	16	53	225	820	285	100	80
21	36	18	16	13	14	17	62	272	860	273	92	78
22	28	15	16	13	14	18	77	415	833	270	85	67
23	29	16	16	13	14	16	118	583	833	275	80	61
24	30	17	16	13	14	17	114	669	867	260	80	55
25	30	17	15	13	14	17	89	635	840	283	97	52
26	29	18	15	12	13	16	83	519	850	250	164	51
27	28	19	15	11	14	15	81	437	853	222	133	48
28	27	20	15	13	17	17	86	489	760	201	111	45
29	27	18	15	14	17	18	95	536	635	188	95	43
30	24	19	16	15	---	16	138	475	646	185	87	40
31	22	---	17	14	---	16	---	512	---	222	86	---
TOTAL	927	660	556	427	448	497	1393	9697	25964	13333	4345	1880
MEAN	29.9	22.0	17.9	13.8	15.4	16.0	46.4	313	865	430	140	62.7
MAX	38	27	24	16	17	18	138	669	1300	981	225	87
MIN	22	15	14	11	13	13	16	140	506	185	80	40
AC-FT	1840	1310	1100	847	889	986	2760	19230	51500	26450	8620	3730

CAL YR 1979 TOTAL 56893.8 MEAN 156 MAX 1140 MIN 9.4 AC-FT 112800
WTR YR 1980 TOTAL 60127.0 MEAN 164 MAX 1300 MIN 11 AC-FT 119300

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO

LOCATION.--Lat 40°22'30", long 105°29'13", in SE¼NW¼ sec.29, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, at tunnel entrance at south end of Olympus Dam on Lake Estes, 1.9 mi (3.0 km) east of Estes Park.

PERIOD OF RECORD.--September 1970 to current year.

REMARKS.--Tunnel is part of Colorado-Big Thompson project. Field data collected prior to 1974 water year available in district office. Records of discharge are estimated values.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT 23...	1015	E200	41	7.2	7.0	8.0	--	--	15	3	4.5
NOV 28...	1245	E521	42	7.2	1.0	10.2	--	--	17	0	5.0
DEC 19...	1100	500	46	7.3	1.5	10.2	--	--	17	0	5.2
JAN 22...	1010	E400	60	7.0	.0	11.4	--	--	20	1	6.0
FEB 20...	1245	E500	60	6.9	1.5	9.8	--	--	22	0	6.6
MAR 10...	1545	E400	60	7.1	1.5	8.2	--	--	23	1	6.6
APR 08...	0945	200	56	7.2	2.0	10.4	180	K8	21	1	6.3
MAY 06...	1010	200	75	7.2	8.0	9.0	K470	120	25	5	7.0
JUN 10...	0945	574	26	6.8	8.0	9.0	170	K80	8	3	2.4
JUL 15...	1140	450	21	6.8	13.5	7.3	510	100	7	0	1.8
AUG 14...	0940	500	26	6.8	17.5	7.2	K2400	760	10	0	2.9
SEP 17...	1035	400	40	6.8	12.5	7.2	K125	K25	14	0	4.2

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT 23...	1.0	2.1	.2	.6	12	5.1	.8	.2	4.7	24.0	26.0
NOV 28...	1.0	2.2	.2	.6	18	4.6	.5	.2	5.2	48.0	31.0
DEC 19...	.9	2.0	.2	.6	20	.7	.5	.2	5.0	46.0	28.0
JAN 22...	1.3	2.3	.2	.8	19	2.4	1.2	.2	5.7	41.0	32.0
FEB 20...	1.3	2.4	.2	.7	22	2.0	1.2	.2	5.3	44.0	34.0
MAR 10...	1.6	2.2	.2	.7	22	3.0	.4	.2	5.6	40.0	34.0
APR 08...	1.2	2.2	.2	.8	20	3.4	.5	.1	5.2	47.0	33.0
MAY 06...	1.8	4.7	.4	.8	20	7.5	2.4	.3	10	67.0	48.0
JUN 10...	.6	1.5	.2	.4	5.0	.8	.5	.0	5.3	30.0	15.0
JUL 15...	.6	1.3	.2	.3	7.0	4.2	.2	.2	4.0	24.0	17.0
AUG 14...	.6	1.4	.2	.5	10	2.0	.5	.2	3.8	22.0	18.0
SEP 17...	.9	1.6	.2	.7	15	1.1	.4	.1	3.9	25.0	22.0

E ESTIMATED.

K BASED ON NON-IDEAL COLONY COUNT.

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)
OCT											
23...	.03	E13.0	.01	.01	.02	--	.03	.02	70	2	--
NOV											
28...	.07	E67.5	.09	.00	.10	.08	.01	.01	60	2	--
DEC											
19...	.06	62.1	.13	.00	.14	.01	.01	.00	50	2	--
JAN											
22...	.06	E44.3	.17	.00	.17	.04	.05	.03	80	3	--
FEB											
20...	.06	E59.4	.16	.01	.17	.00	.02	.01	90	5	--
MAR											
10...	.05	E43.2	.15	.01	.16	.06	.01	.01	120	6	--
APR											
08...	.06	25.4	.15	.01	.16	.03	.04	.02	110	8	6900
MAY											
06...	.09	30.2	.17	.00	.17	.12	.06	.02	250	20	4600
JUN											
10...	.04	46.5	.06	.01	.07	.02	.02	.01	100	8	680
JUL											
15...	.03	29.2	.03	.01	.04	.00	.04	.03	80	8	2500
AUG											
14...	.03	29.7	.00	.00	.00	.06	.05	.03	60	2	1100
SEP											
17...	.03	27.0	.00	.00	.00	.00	.03	.04	50	1	--

E ESTIMATED.

06734900 OLYMPUS TUNNEL AT LAKE ESTES, CO--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	APR 8,80		MAY 6,80		JUN 10,80		JUL 15,80		AUG 14,80		SEP 10,80	
TIME	0945		1010		0945		1140		0940		1035	
TOTAL CELLS/ML	6900		4600		680		2500		1100		2400	
DIVERSITY: DIVISION	0.0		0.5		0.6		1.5		1.6		1.2	
.CLASS	0.0		0.5		0.8		1.8		1.7		1.2	
..ORDER	0.1		1.1		1.5		2.4		2.3		1.7	
...FAMILY	0.1		1.2		1.8		3.3		2.6		1.8	
....GENUS	0.1		1.2		2.0		3.6		2.7		2.2	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...MICRACTINIACEAE												
....MICRACTINIUM	--	-	240	5	--	-	330	13	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	--	-	--	-	29	4	28	1	--	-	13	1
....CHODATELLA	--	-	--	-	58	9	14	1	--	-	--	-
....DICTYOSPHAERIUM	--	-	140	3	--	-	170	7	--	-	52	2
....OOCYSTIS	--	-	--	-	--	-	--	-	52	5	13	1
....SELENASTRUM	--	-	--	-	--	-	--	-	39	4	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	--	-	--	-	--	-	550#	22	130	12	52	2
..TETRASPORALES												
...PALMELLACEAE												
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-	100	10	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	--	-	--	-	--	-	96	4	77	7	--	-
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	--	-	3500#	76	--	-	210	8	13	1	26	1
....MELOSIRA	--	-	--	-	390#	57	260	11	--	-	1100#	45
....STEPHANODISCUS	6900#	99	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	--	-	--	-	43	6	28	1	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	14	1	13	1	--	-
...CYMBELLACEAE												
....CYMBELLA	--	-	--	-	--	-	14	1	--	-	--	-
...DIATOMACEAE												
....DIATOMA	--	-	--	-	120#	17	--	-	--	-	--	-
...FRAGILARIACEAE												
....ASTERIONELLA	--	-	--	-	--	-	96	4	--	-	--	-
....FRAGILARIA	--	-	--	-	--	-	--	-	310#	29	360	15
....SYNEDRA	--	-	--	-	--	-	14	1	--	-	--	-
...GOMPHONEMATACEAE												
....GOMPHONEMA	--	-	34	1	14	2	--	-	--	-	--	-
...NAVICULACEAE												
....NAVICULA	--	-	--	-	--	-	14	1	--	-	--	-
...NITZSCHIACEAE												
....NITZSCHIA	63	1	--	-	--	-	83	3	13	1	13	1
...TABELLARIACEAE												
....TABELLARIA	--	-	690	15	--	-	--	-	--	-	--	-
.CHRYSOPHYCEAE												
..CHRYSOMONADALES												
...CHROMULINACEAE												
....CHRYSOCOCCUS	--	-	--	-	29	4	--	-	--	-	--	-
...MALLOMONADACEAE												
....MALLOMONAS	--	-	--	-	--	-	--	-	13	1	--	-
...OCHROMONADACEAE												
....OCHROMONAS	--	-	--	-	--	-	210	8	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	--	-	--	-	69	3	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	--	-	120	5	--	-	--	-
....COCCOCHLORIS	--	-	34	1	--	-	69	3	--	-	--	-
..HORMOGONALES												
...NOSTOCACEAE												
....ANABAENA	--	-	--	-	--	-	--	-	300#	28	350	14
....APHANIZOMENON	--	-	--	-	--	-	--	-	--	-	450#	19
...OSCILLATORIACEAE												
....OSCILLATORIA	--	-	--	-	--	-	96	4	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06735500 BIG THOMPSON RIVER NEAR ESTES PARK, CO

LOCATION.--Lat 40°22'35", long 105°29'06", in NE¼NE¼ sec.29, T.5 N., R.72 W., Larimer County, Hydrologic Unit 10190006, on right bank 100 ft (30 m) upstream from Dry Gulch, 600 ft (180 m) downstream from Olympus Dam, and 2.0 mi (3.2 km) east of Estes Park.

DRAINAGE AREA.--155 mi² (401 km²). Area at site used Jan. 29, 1934, to Mar. 21, 1951, 162 mi² (420 km²).

PERIOD OF RECORD.--July 1930 to current year. Prior to October 1933, monthly discharges only, published in WSP 1310. Published as Thompson River near Estes Park 1934-47.

REVISED RECORDS.--WDR CO-76-1: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 7,422.5 ft (2,262.38 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Jan. 29, 1934, nonrecording gage on highway bridge 1.5 mi (2.4 km) downstream at different datum. Jan. 29, 1934, to Mar. 21, 1951, water-stage recorder at site 0.4 mi (0.6 km) downstream at datum 10.5 ft (3.20 m) lower.

REMARKS.--Records excellent. Low flow regulated by Lake Estes since Nov. 30, 1948. Diversion from Colorado River basin to Big Thompson River basin above station through Alva B. Adams tunnel began Aug. 10, 1947 (see station 09013000 in Volume 2 for diversion during current year); since Apr. 15, 1953, this imported water has been diverted from Lake Estes through Olympus tunnel bypassing this station. Since May 17, 1955, part of the natural flow of Big Thompson River (71,970 acre-ft or 88.7 hm³ during current year) has also been diverted through Olympus tunnel and returned to the river below the station at mouth of canyon, near Drake. Small power developments and small diversions for irrigation and municipal use above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 2,800 ft³/s (79.3 m³/s) June 20, 1933, gage height, 4.0 ft (1.22 m), site and datum then in use, from rating curve extended above 460 ft³/s (13 m³/s); no flow Aug. 1 to Sept. 30, 1976 (all flow into Lake Estes diverted through Olympus tunnel after flood of July 31, 1976).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 757 ft³/s (21.4 m³/s) at 1600 June 11, gage height, 4.99 ft (1.521 m); minimum daily, 8.4 ft³/s (0.238 m³/s) Oct. 27, 29-Nov. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	8.4	8.9	10	15	12	18	52	124	346	125	50
2	25	8.4	8.9	10	16	13	17	51	124	494	125	49
3	25	8.4	9.8	10	16	12	17	51	124	498	125	49
4	25	8.4	10	10	16	13	17	52	145	375	126	50
5	26	8.4	11	8.9	16	14	17	56	225	200	125	49
6	24	8.4	11	8.9	16	16	18	47	420	123	125	50
7	24	9.3	10	8.9	16	15	18	68	447	125	125	49
8	26	10	10	8.9	16	15	17	100	323	502	123	49
9	26	10	10	8.9	16	15	17	100	469	137	100	49
10	24	10	10	8.9	15	16	17	99	699	125	100	49
11	24	10	10	8.9	15	17	17	101	709	124	99	49
12	24	9.8	9.8	8.9	15	17	17	101	683	124	99	49
13	24	9.8	9.8	8.9	15	16	18	99	568	124	101	50
14	24	10	9.8	8.9	15	17	20	96	471	124	100	49
15	24	10	9.8	8.9	15	17	44	99	398	125	98	50
16	24	9.8	9.8	8.6	15	17	55	102	396	124	100	50
17	24	9.8	9.8	9.8	15	17	31	101	350	124	100	50
18	24	9.8	9.8	9.8	15	18	31	98	302	125	100	49
19	25	9.8	10	9.8	15	18	35	99	389	124	100	51
20	24	9.8	9.8	9.8	14	16	43	100	335	125	97	48
21	24	9.8	8.9	9.3	12	16	49	100	304	124	75	50
22	22	9.8	8.9	9.3	12	17	51	99	318	125	75	50
23	11	9.8	8.9	8.9	12	17	52	98	218	125	75	49
24	9.3	8.9	9.3	9.8	12	17	52	215	262	125	74	50
25	9.3	8.9	9.8	9.8	12	17	52	202	350	124	75	50
26	9.3	8.9	9.8	9.8	12	17	52	113	328	124	75	50
27	8.4	8.9	9.8	11	12	17	50	124	332	125	74	50
28	8.8	8.9	9.8	11	12	18	52	126	328	125	74	47
29	8.4	8.9	9.8	11	12	19	52	124	242	125	75	45
30	8.4	8.9	9.8	11	---	18	51	123	128	125	74	43
31	8.4	---	10	11	---	18	---	124	---	126	74	---
TOTAL	618.3	280.0	302.8	297.6	415	502	997	3120	10511	5541	3013	1472
MEAN	19.9	9.33	9.77	9.60	14.3	16.2	33.2	101	350	179	97.2	49.1
MAX	26	10	11	11	16	19	55	215	709	502	126	51
MIN	8.4	8.4	8.9	8.6	12	12	17	47	124	123	74	43
AC-FT	1230	555	601	590	823	996	1980	6190	20850	10990	5980	2920

CAL YR 1979 TOTAL 19021.8 MEAN 52.1 MAX 574 MIN 2.0 AC-FT 37730
WTR YR 1980 TOTAL 27069.7 MEAN 74.0 MAX 709 MIN 8.4 AC-FT 53690

06736700 BIG THOMPSON RIVER ABOVE DILLE TUNNEL, NEAR DRAKE, CO

LOCATION.--Lat 40°25'06", long 105°14'36", in NE¼NW¼ sec.9, T.5 N., R.70 W., Larimer County, Hydrologic Unit 10190006, 100 ft (30 m) upstream from diversion dam at entrance to Dille Tunnel and 5.2 mi (8.4 km) east of Drake.

DRAINAGE AREA.--304 mi² (787 km²).

PERIOD OF RECORD.--September 1970 to September 1980 (discontinued).

REMARKS.--Field data collected prior to 1974 water year available in district office. Records of discharge are estimated values.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 23...	0850	E25	58	7.0	3.0	10.2	84	52
NOV 28...	0900	E15	75	7.6	.0	10.8	K11	K4
DEC 19...	1420	E15	70	7.4	.0	11.2	--	--
JAN 22...	1530	E15	85	7.9	.0	11.2	--	--
FEB 20...	0900	E25	90	7.0	.5	11.0	--	--
MAR 13...	0725	E20	105	7.0	.0	11.0	--	--
APR 09...	1530	E60	110	8.1	8.0	9.4	K32	K10
MAY 07...	1600	E800	100	7.3	8.0	10.0	K60	K30
JUN 11...	1000	E1200	34	6.8	10.0	9.0	620	220
JUL 16...	0945	E200	32	7.0	14.0	7.9	230	K35
AUG 14...	1100	E150	37	7.0	17.0	7.6	1400	64
SEP 17...	1330	E70	51	8.1	15.5	8.2	K75	K12

E ESTIMATED.

K BASED ON NON-IDEAL COLONY COUNT.

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO

LOCATION.--Lat 40°36'00", long 105°10'06", in NW¼SW¼ sec.6, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on right bank near abutment of Horsetooth Dam on tributaries to Cache la Poudre River, 4.8 mi (7.7 km) west of city hall in Fort Collins. Water-quality sampling site in middle of reservoir at Soldier Canyon Dam.

WATER-CONTENTS RECORDS

PERIOD OF RECORD.--April 1951 to current year.

GAGE.--Nonrecording gage read at irregular intervals from 1 to 10 days. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by earth and rockfill dike and dams closing openings in subsequent valleys between hogbacks; storage began Jan. 10, 1951; dams completed July 21, 1949. Usable capacity, 143,500 acre-ft (177 hm³) above elevations 5,320 ft (1,621.5 m), invert of channel from Spring Canyon Dam, 5,310 ft (1,618.5 m), invert of channel from Dixon Canyon Dam, 5,270 ft (1,606.3 m), trashrack sill of outlet at Soldier Canyon Dam, and below maximum water-surface elevation, 5,430 ft (1,655.1 m), 6 ft (1.8 m) below crest of Satanka Dike. Dead storage, 8,270 acre-ft (10.2 hm³). Figures given represent usable contents. Water is diverted from Colorado River basin through Alva B. Adams tunnel for supplemental irrigation supply to Cache la Poudre River.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 141,600 acre-ft (175 hm³) July 2, 1970, elevation, 5,429.02 ft (1,654.765 m); minimum observed, 9 acre-ft (11,100 m³) Nov. 16-30, 1977, elevation, 5,270.25 ft (1,606.372 m); no storage prior to Apr. 18, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 141,300 acre-ft (174 hm³) May 21, elevation, 5,428.82 ft (1,654.704 m); minimum observed, 74,790 acre-ft (92.2 hm³) Sept. 25, 26, 30, elevation, 5,387.68 ft (1,642.165 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	5,401.80	95,280	-
Oct. 31.	5,401.28	94,480	-800
Nov. 30.	5,402.28	96,020	+1,540
Dec. 31.	5,406.10	102,000	+5,980
CAL YR 1979			+39,390
Jan. 31.	5,409.58	107,600	+5,600
Feb. 29.	5,413.49	114,100	+6,500
Mar. 31.	5,420.90	126,800	+12,700
Apr. 30.	5,425.48	135,100	+8,300
May 31.	5,427.79	139,300	+4,200
June 30.	5,426.52	137,000	-2,300
July 31.	5,411.20	110,300	-26,700
Aug. 31.	5,393.88	83,500	-26,800
Sept. 30.	5,387.68	74,790	-8,710
WTR YR 1980			-20,490

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1969 to current year.

REMARKS.--Samples collected from surface in middle of reservoir at Soldier Canyon Dam. Reservoir storage represents usable contents.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
OCT				
10...	1035	.1	15.5	8.2
10...	1036	5.0	15.5	8.2
10...	1037	10	15.5	8.2
10...	1038	20	15.5	8.3
10...	1039	25	15.5	8.2
10...	1040	30	15.5	8.2
10...	1041	40	14.5	7.3
10...	1042	50	12.0	6.9
10...	1043	60	10.0	7.1
10...	1044	70	9.5	7.2
10...	1045	75	9.5	7.4
10...	1046	80	9.0	7.5
10...	1047	90	8.5	7.6
10...	1048	100	8.5	7.5
10...	1049	110	8.0	7.3
10...	1050	120	8.0	6.0
APR				
22...	1130	.1	10.0	--
22...	1131	5.0	10.0	11.8
22...	1132	10	9.0	11.8
22...	1133	20	7.0	10.6
APR				
22...	1134	25	6.0	10.5
22...	1135	30	5.0	10.4
22...	1136	40	5.0	10.4
22...	1137	50	5.0	10.4
22...	1138	60	4.5	10.4
22...	1139	70	4.5	10.4
22...	1140	75	4.0	10.4
22...	1141	80	4.0	10.4
22...	1142	90	4.0	10.4
22...	1143	100	4.0	10.4
22...	1144	110	4.0	10.4
22...	1145	120	4.0	10.4
22...	1146	125	4.0	10.4
MAY				
20...	1420	.1	12.0	8.9
20...	1421	5.0	11.0	9.2
20...	1422	10	10.0	9.4
20...	1423	20	9.0	9.7
20...	1424	25	8.0	9.8
20...	1425	30	8.0	10.1
MAY				
20...	1426	40	6.0	10.5
20...	1427	50	5.5	11.0
20...	1428	60	5.0	11.2
20...	1429	70	5.0	11.0
20...	1430	75	5.0	11.2
20...	1431	80	5.0	11.1
20...	1432	90	5.0	11.3
20...	1433	100	5.0	10.6
20...	1434	110	5.0	11.0
20...	1435	120	4.5	10.5
20...	1436	125	4.0	10.6
JUN				
24...	1130	.1	21.0	7.2
24...	1131	5.0	20.0	7.3
24...	1132	10	20.0	7.3
24...	1133	20	16.5	7.3
24...	1134	25	14.0	7.7
24...	1135	30	11.5	8.2
24...	1136	40	9.0	8.8
24...	1137	50	7.5	9.0
24...	1138	60	7.0	9.3
JUN				
24...	1139	70	7.0	8.8
24...	1140	75	7.5	8.8
24...	1141	80	7.0	9.0
24...	1142	90	7.0	9.0
24...	1143	100	6.5	9.0
24...	1144	110	6.0	9.0
24...	1145	120	6.0	7.2
JUL				
30...	1100	.1	22.0	6.4
30...	1101	5.0	22.0	6.4
30...	1102	10	22.0	6.4
30...	1103	20	22.0	6.2
30...	1104	25	22.0	6.4
30...	1105	30	17.0	5.4
30...	1106	40	13.0	6.6
30...	1107	50	11.0	6.3
30...	1108	60	9.0	7.6
30...	1109	70	8.0	7.4
30...	1110	75	8.0	7.4
30...	1111	80	8.0	6.4
JUL				
30...	1112	90	8.0	6.0
AUG				
14...	1100	.1	22.5	6.6
SEP				
30...	1045	.1	18.0	6.8
30...	1046	5.0	17.0	7.0
30...	1047	10	17.0	7.0
30...	1048	20	16.5	6.5
30...	1049	25	16.5	6.7
SEP				
30...	1050	30	16.0	6.6
30...	1051	40	16.0	6.6
30...	1052	50	15.5	6.1
30...	1053	60	13.0	5.7
30...	1054	70	11.0	6.1
30...	1055	75	10.5	6.0
30...	1056	80	10.0	6.1
30...	1057	90	9.0	6.2

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TRANSPARENCY (SECCHI DISK) (IN)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
OCT									
10...	1035	.1	84	7.6	62.4	--	--	--	48.0
APR									
22...	1130	.1	95	8.8	48.0	K1	<1	--	72.0
MAY									
20...	1420	.1	95	8.0	4.4	<1	<1	--	57.0
JUN									
24...	1130	.1	105	7.4	79.2	<1	<1	--	60.0
JUL									
30...	1100	.1	9	7.7	8.0	--	K1	K2	69.0
AUG									
14...	1100	.1	107	7.7	--	<1	<1	--	50.0
SEP									
30...	1045	.1	95	7.3	64.0	<1	<1	--	74.0

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ALGAL GROWTH POTENTIAL, BOTTLE TEST (MG/L)	PHYTOPLANKTON, TOTAL (CELLS PER ML)
OCT									
10...	.07	.12	--	.01	.13	.02	.00	--	--
APR									
22...	.10	.15	--	.01	.16	.00	.05	2.6	5200
MAY									
20...	.08	.22	--	.01	.23	.06	.02	1.3	51
JUN									
24...	.08	.17	--	.01	.18	.06	.82	.5	39
JUL									
30...	.09	.28	--	.01	.29	.00	.03	2.0	13
AUG									
14...	.07	.23	.22	.00	23	.00	.03	1.4	120
SEP									
30...	.10	.21	--	.00	.21	.00	.03	.4	100

K BASED ON NON-IDEAL COLONY COUNT.

06737500 HORSETOOTH RESERVOIR NEAR FORT COLLINS, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	APR 22,80	MAY 20,80	JUN 24,80	JUL 30,80	AUG 14,80	SEP 30,80
TIME	1130	1420	1130	1100	1100	1045
TOTAL CELLS/ML	5200	51	39	13	120	100
DIVERSITY: DIVISION	0.5	0.0	0.0	0.0	1.8	0.8
.CLASS	0.5	0.0	0.0	0.0	1.8	0.8
..ORDER	1.1	0.0	0.0	0.0	2.1	1.1
...FAMILY	1.1	0.0	0.9	0.0	2.1	1.5
....GENUS	1.5	1.0	0.9	0.0	2.1	1.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...CHARACIACEAE												
....SCHROEDERIA	--	-	--	-	26#	67	--	-	--	-	--	-
...OOCYSTACEAE												
....CHLORELLA	--	-	--	-	13#	33	--	-	--	-	--	-
....DICTYOSPHAERIUM	270	5	--	-	--	-	--	-	--	-	13	13
....OOCYSTIS	--	-	--	-	--	-	--	-	13	11	--	-
..VOLVOCALES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	230	4	--	-	--	-	--	-	13	11	13	13
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	--	-	26#	50	--	-	13#	100	--	-	--	-
....MELOSIRA	470	9	26#	50	--	-	--	-	--	-	--	-
....STEPHANODISCUS	3600#	69	--	-	--	-	--	-	--	-	--	-
..PENNALES												
...DIATOMACEAE												
....DIATOMA	67	1	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE												
....ASTERIONELLA	570	11	--	-	--	-	--	-	51#	44	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	-	--	-	--	-	--	-	13	11	64#	63
...CRYPTOMONADACEAE												
....CRYPTOMONAS	--	-	--	-	--	-	--	-	--	-	13	13
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	--	-	--	-	26#	22	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06738000 BIG THOMPSUN RIVER AT MOUTH OF CANYON, NEAR DRAKE, CO

LOCATION.--Lat 40°25'18", long 105°13'34", in SW¼SW¼ sec.3, T.5 N., R.70 W., Larimer County, Hydrologic Unit 10190006, on right bank at mouth of canyon, 400 ft (120 m) upstream from Handy Ditch diversion dam, and 6.0 mi (9.7 km) east of Drake.

DRAINAGE AREA.--305 mi^2 (790 km^2).

PERIOD OF RECORD.--August 1887 to September 1892, May 1895 to September 1903, October 1926 to September 1933 (no winter records prior to October 1932, except water years 1927-28), April 1938 to September 1949, March 1951 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as Big Thompson Creek at Arkins 1887-92, Big Thompson Creek near Arkins 1901-3, and as Thompson River at mouth of canyon, near Drake 1927-30, 1938-47.

REVISED RECORDS.--WSP 1310: 1891, 1927. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,305.47 ft (1,617.107 m), National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Oct. 1, 1949, to Sept. 18, 1977, at present site, datum 8.00 ft (2.438 m) lower, Sept. 19, 1977, to July 27, 1980, at present site, datum 7.37 ft (2.246 m) lower, published incorrectly at datum 8.00 ft (2.438 m) lower. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1949.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversions above station for irrigation. Diversions from Colorado River basin to Big Thompson River basin above station through Alva B. Adams tunnel began Aug. 10, 1947 (see station 09013000 in Volume 2 for diversion during current year); since Apr. 15, 1953, this imported water has been diverted from Lake Estes through Olympus tunnel bypassing this station. Part of the natural flow of the Big Thompson River has also been diverted through Olympus tunnel since May 17, 1955, none diverted during current year, and Dille tunnel since Apr. 20, 1959, 22,910 acre-ft (28.2 hm^3) during current year, and returned to the river just below this station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,200 ft^3/s (884 m^3/s) July 31, 1976, gage height, 19.86 ft (6.053 m), from floodmarks, from slope-area measurements of peak flow; no flow at times in 1976 and 1979 (all flow above station diverted through Olympus and Dille tunnels after flood of July 31, 1976).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,150 ft^3/s (174 m^3/s) at 2000 Apr. 30, gage height, 7.62 ft (2.323 m); no flow Oct. 1 to Apr. 13 (all flow above station diverted through Dille tunnel).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	1380	508	398	82	84
2	.00	.00	.00	.00	.00	.00	.00	912	496	763	76	71
3	.00	.00	.00	.00	.00	.00	.00	776	479	896	78	70
4	.00	.00	.00	.00	.00	.00	.00	760	496	776	80	71
5	.00	.00	.00	.00	.00	.00	.00	808	678	422	76	71
6	.00	.00	.00	.00	.00	.00	.00	768	904	296	74	72
7	.00	.00	.00	.00	.00	.00	.00	700	1020	258	72	71
8	.00	.00	.00	.00	.00	.00	.00	622	824	732	74	72
9	.00	.00	.00	.00	.00	.00	.00	608	936	374	86	82
10	.00	.00	.00	.00	.00	.00	.00	479	1310	258	94	80
11	.00	.00	.00	.00	.00	.00	.00	550	1390	279	96	76
12	.00	.00	.00	.00	.00	.00	.00	685	1390	282	98	77
13	.00	.00	.00	.00	.00	.00	.00	496	1200	258	100	77
14	.00	.00	.00	.00	.00	.00	32	328	1050	240	101	72
15	.00	.00	.00	.00	.00	.00	64	487	928	227	137	72
16	.00	.00	.00	.00	.00	.00	125	1280	896	214	137	72
17	.00	.00	.00	.00	.00	.00	82	1210	832	211	130	70
18	.00	.00	.00	.00	.00	.00	89	1050	722	182	128	70
19	.00	.00	.00	.00	.00	.00	101	952	808	154	125	71
20	.00	.00	.00	.00	.00	.00	121	872	752	128	123	94
21	.00	.00	.00	.00	.00	.00	146	824	700	117	101	80
22	.00	.00	.00	.00	.00	.00	104	816	722	141	96	77
23	.00	.00	.00	.00	.00	.00	284	832	514	154	96	48
24	.00	.00	.00	.00	.00	.00	468	928	538	151	100	36
25	.00	.00	.00	.00	.00	.00	225	944	570	111	100	37
26	.00	.00	.00	.00	.00	.00	28	708	629	98	115	37
27	.00	.00	.00	.00	.00	.00	28	657	678	84	107	37
28	.00	.00	.00	.00	.00	.00	28	556	650	93	103	36
29	.00	.00	.00	.00	.00	.00	29	550	490	98	103	35
30	.00	.00	.00	.00	---	.00	1770	556	300	96	103	33
31	.00	---	.00	.00	---	.00	---	508	---	76	103	---
TOTAL	.00	.00	.00	.00	.00	.00	3724.00	23602	23410	8567	3094	1951
MEAN	.000	.000	.000	.000	.000	.000	124	761	780	276	99.8	65.0
MAX	.00	.00	.00	.00	.00	.00	1770	1380	1390	896	137	94
MIN	.00	.00	.00	.00	.00	.00	.00	328	300	76	72	33
AC-FT	.00	.00	.00	.00	.00	.00	7390	46810	46430	16990	6140	3870

CAL YR 1979 TOTAL 29684.90 MEAN 81.3 MAX 1200 MIN .00 AC-FT 58880
WTR YR 1980 TOTAL 64348.00 MEAN 176 MAX 1770 MIN .00 AC-FT 127600

NOTE.--NO GAGE-HEIGHT RECORD OCT. 1 TO APR. 13.

06741480 BIG THOMPSON RIVER ABOVE LOVELAND, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°24'02", long 105°07'20", in SW¼NE¼ sec.16, T.5 N., R.69 W., Larimer County, Hydrologic Unit 10190006, at Wilson Avenue bridge 9 mi (14.5 km) upstream from Greeley-Loveland Ditch and 2.5 mi (4.0 km) west of Loveland.

DRAINAGE AREA.--525 mi² (1,360 km²), approximately.

PERIOD OF RECORD.--June 1979 to current year.

REMARKS.--Water-quality data for 1979 water year published in this volume.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
JUN 28...	0930	366	105	7.4	13.0	9.4	--	34	18	10
JUL 31...	1450	184	175	7.7	18.5	7.7	220	67	37	19
AUG 24...	0835	41	625	8.1	14.0	9.0	K370	290	150	86
SEP 20...	0850	23	650	8.0	13.0	8.7	180	310	200	94

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
JUN 28...	2.3	3.3	.2	.7	16	16	1.5	.2	7.7	52.0
JUL 31...	4.8	4.2	.2	.9	30	32	3.5	.2	4.9	88.0
AUG 24...	18	16	.4	2.1	140	170	4.9	.4	15	400
SEP 20...	18	12	.3	2.6	110	230	4.0	.3	4.8	434

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)
JUN 28...	.07	51.4	.13	.01	.14	<.01	.10	.01	<.01
JUL 31...	.12	43.7	.14	.01	.15	.01	.49	.08	<.01
AUG 24...	.54	44.7	.75	.01	.76	<.01	.38	<.01	.01
SEP 20...	.59	27.0	.39	.01	.40	<.01	.44	.01	.03

DATE	TIME	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
JUN 28...	0930	ND	3	70	8	6	<20
JUL 31...	1450	6	8	50	64	<10	20
AUG 24...	0835	<2	6	30	2	50	ND
SEP 20...	0850	ND	8	20	13	50	120

K BASED ON NON-IDEAL COLONY COUNT.

06741480 BIG THOMPSON RIVER ABOVE LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 25...	0905	16	790	8.0	7.0	10.2	33	400	240	120
NOV 29...	0935	19	620	8.1	.0	12.4	K61	290	160	87
DEC 20...	0845	21	750	8.1	1.0	12.2	180	330	160	99
JAN 23...	0940	46	390	7.9	.0	12.4	--	190	100	57
FEB 19...	1150	63	340	8.0	5.0	11.6	--	140	59	42
MAR 12...	1515	95	360	8.8	6.5	12.4	--	150	64	44
APR 10...	0930	6.4	947	7.6	6.0	10.0	--	420	290	120
MAY 07...	0800	1850	140	7.3	7.0	10.4	--	56	21	16
JUN 12...	1015	1370	68	7.1	10.0	9.4	--	23	2	6.7
JUL 16...	1215	231	300	8.0	19.5	8.0	--	110	59	28
AUG 07...	0830	131	400	7.8	20.0	7.8	--	170	100	46
SEP 11...	1345	69	250	8.7	18.0	9.0	--	94	54	28

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 25...	24	17	.4	2.2	160	250	5.9	.4	9.3	528
NOV 29...	18	14	.4	2.1	130	190	4.8	.3	10	407
DEC 20...	21	17	.4	1.8	170	190	5.9	.4	10	451
JAN 23...	12	9.5	.3	1.3	89	110	3.7	.3	9.1	259
FEB 19...	8.9	9.2	.3	1.4	83	74	7.1	.3	8.9	205
MAR 12...	9.7	10	.4	1.3	86	80	3.9	.3	9.0	213
APR 10...	30	25	.5	2.1	130	330	8.4	.3	9.4	612
MAY 07...	3.8	6.6	.4	1.4	35	21	2.3	.3	14	89.0
JUN 12...	1.5	4.8	.4	.6	21	10	1.1	.0	6.7	45.0
JUL 16...	8.6	7.9	.3	1.1	46	70	2.3	.4	5.5	153
AUG 07...	14	12	.4	1.4	68	120	3.6	.4	4.5	244
SEP 11...	5.9	5.6	.3	.9	40	65	2.7	.2	5.3	140

K BASED ON NON-IDEAL COLONY COUNT.

06741480 BIG THOMPSON RIVER ABOVE LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)
OCT 25...	.72	23.2	.69	.01	.70	.01	.95	.01	.01
NOV 29...	.55	20.9	.62	.00	.63	.08	--	.01	.02
DEC 20...	.61	26.1	.75	.01	.76	.01	.43	.00	.00
JAN 23...	.35	32.2	.65	.00	.65	.03	.32	.01	--
FEB 19...	.28	34.9	.65	.01	.66	.04	.47	.01	--
MAR 12...	.29	54.6	.76	.01	.77	.01	.51	.01	--
APR 10...	.83	10.6	1.90	.05	1.9	.07	.79	.01	--
MAY 07...	.12	445	.50	.00	.50	.04	1.10	.03	--
JUN 12...	.06	166	.23	.00	.23	.00	.82	.01	--
JUL 16...	.21	95.4	.31	.01	.32	.00	.49	.03	--
AUG 07...	.33	86.3	.36	.01	.37	.06	1.00	.01	--
SEP 11...	.19	26.2	.40	.01	.41	.10	.35	.02	--

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT 25...	0905	--	--	--	0	5	--	--	--	30
NOV 29...	0935	--	--	--	0	6	--	--	--	30
DEC 20...	0845	--	--	--	0	0	--	--	--	<10
JAN 23...	0940	0	--	--	0	1	--	8	--	30
FEB 19...	1150	--	1	200	--	0	5	--	410	40
MAR 12...	1515	510	--	--	0	2	--	8	--	40
APR 10...	0930	200	--	--	1	2	--	1	--	30
MAY 07...	0800	--	1	200	0	0	0	9	3700	100
JUN 12...	1015	540	--	--	1	5	--	27	--	110
JUL 16...	1215	550	--	--	0	6	--	10	--	30
AUG 07...	0830	--	2	100	0	10	3	8	590	20
SEP 11...	1345	80	--	--	0	5	--	12	--	40

06741480 BIG THOMPSON RIVER ABOVE LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 25...	0	--	40	--	--	--	--	--	0
NOV 29...	4	--	40	--	--	--	--	--	10
DEC 20...	5	--	30	--	--	--	--	--	40
JAN 23...	--	--	20	--	--	--	--	0	40
FEB 19...	--	30	20	.0	2	0	2	--	--
MAR 12...	2	--	8	--	--	--	--	0	20
APR 10...	3	--	110	--	--	--	--	0	10
MAY 07...	5	80	7	.0	1	5	1	0	30
JUN 12...	100	--	8	--	--	--	--	3	70
JUL 16...	7	--	9	--	--	--	--	0	20
AUG 07...	4	30	10	.0	3	2	3	1	30
SEP 11...	27	--	10	--	--	--	--	1	50

06741510 BIG THOMPSON RIVER AT LOVELAND, CO

LOCATION.--Lat 40°22'43", long 105°03'38", in SE¼SE¼ sec.24, T.5 N., R.69 W., Larimer County Hydrologic Unit 10190006, on right bank 690 ft (210 m) downstream from county road bridge C-13, 1.7 mi (2.7 km) south of sugar refinery in Loveland, and 1.9 mi (3.1 km) from Farmers Ditch diversion.

DRAINAGE AREA.--535 mi² (1,386 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1979 to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 4,906 ft (1,495.3 m), from topographic map.

REMARKS.--Records good.

COOPERATION.--City of Loveland.

EXTREMES FOR PERIOD JULY TO SEPTEMBER 1979.--Maximum discharge, 248 ft³/s (7.02 m³/s) Aug. 19, 1979, gage height, 3.04 ft (0.927 m); minimum daily, 4.6 ft³/s (0.13 m³/s) Sept. 30, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,970 ft³/s (197 m³/s) at 2300 Apr. 30, gage height, 10.10 ft (3.078 m) from highwater mark; minimum daily, 4.6 ft³/s (0.13 m³/s) Oct. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										---	93	41
2										---	84	46
3										---	84	42
4										144	83	32
5										124	84	37
6										111	88	50
7										111	90	48
8										131	92	42
9										128	88	27
10										121	98	27
11										118	93	41
12										114	95	47
13										116	93	53
14										124	90	50
15										129	94	30
16										126	93	16
17										132	91	6.8
18										160	81	9.6
19										162	110	11
20										117	103	12
21										115	94	19
22										116	76	27
23										113	55	22
24										117	40	20
25										120	47	26
26										128	40	14
27										122	45	18
28										113	57	24
29										111	37	20
30										94	30	4.6
31										88	38	---
TOTAL										---	2386	865.0
MEAN										---	77.0	28.8
MAX										---	110	53
MIN										---	30	4.6
AC-FT										---	4730	1720

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	36	30	54	50	85	27	4240	1440	151	77	72
2	82	30	30	50	53	85	28	2590	1400	178	85	70
3	173	34	30	50	56	93	28	2400	1280	235	89	65
4	177	35	30	50	57	102	30	2300	1190	196	86	65
5	177	43	30	53	48	96	33	2100	1260	175	85	67
6	174	39	30	55	34	91	31	1980	1270	184	88	68
7	100	41	24	55	34	94	30	1860	1340	139	88	72
8	12	40	24	52	34	90	34	1740	1320	144	93	70
9	22	40	24	61	40	88	38	1630	1280	115	110	83
10	20	32	24	74	45	88	37	1450	1320	134	104	99
11	18	27	24	75	45	89	37	1480	1390	139	99	85
12	15	35	25	70	45	95	35	1880	1440	148	104	61
13	10	37	25	66	50	66	33	1770	1420	146	99	47
14	8.1	43	25	76	50	13	108	1400	1330	148	104	33
15	7.7	40	25	93	42	11	154	1230	1110	160	222	34
16	9.2	34	25	90	48	10	193	2740	925	158	246	35
17	12	38	25	84	54	9.2	170	3040	795	133	253	31
18	20	44	24	84	68	9.6	179	2880	662	128	242	30
19	36	43	22	83	72	8.8	207	2380	618	125	240	33
20	30	40	29	76	76	14	237	2120	570	102	231	45
21	16	35	50	79	78	26	229	1980	531	86	218	37
22	22	30	50	77	96	25	215	1960	489	83	220	44
23	23	30	52	70	91	25	540	2120	444	82	148	47
24	15	30	51	51	78	26	880	2420	377	74	99	32
25	15	25	52	56	74	26	835	2370	295	83	102	24
26	16	25	51	39	65	26	735	2110	204	73	114	24
27	6.9	25	51	43	75	26	654	1940	153	61	114	20
28	4.6	25	56	43	89	28	582	1600	128	63	109	24
29	15	25	54	45	89	27	566	1570	125	59	102	26
30	61	30	57	46	---	27	1860	1590	138	65	86	31
31	53	---	67	47	---	28	---	1540	---	76	67	---
TOTAL	1355.1	1031	1116	1947	1736	1527.6	8765	64410	26244	3843	4124	1474
MEAN	43.7	34.4	36.0	62.8	59.9	49.3	292	2078	875	124	133	49.1
MAX	177	44	67	93	96	102	1860	4240	1440	235	253	99
MIN	4.6	25	22	39	34	8.8	27	1230	125	59	67	20
AC-FT	2690	2040	2210	3860	3440	3030	17390	127800	52050	7620	8180	2920

WTR YR 1980 TOTAL 117572.7 MEAN 321 MAX 4240 MIN 4.6 AC-FT 233200

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1979 to current year.

REMARKS.--Water-quality data for 1979 water year published in this volume.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
JUN 28...	1130	222	205	7.5	15.5	8.0	--	71	49	18
JUL 31...	1300	91	510	8.1	21.0	7.8	K220	190	130	43
AUG 24...	1020	34	775	8.3	16.5	10.5	K370	330	190	90
SEP 20...	1050	12	925	8.4	15.5	11.2	>6000	480	260	110

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
JUN 28...	6.4	9.2	.5	.9	22	53	2.4	.2	7.8	112
JUL 31...	21	23	.7	1.0	60	180	3.6	.3	4.8	313
AUG 24...	25	27	.7	2.6	140	250	6.6	.4	13	502
SEP 20...	31	35	.8	3.0	140	350	7.9	.4	4.2	628

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)
JUN 28...	.15	67.1	.21	.01	.22	<.01	.05	.02	.01
JUL 31...	.43	77.2	.15	<.01	.15	<.01	.46	.09	<.01
AUG 24...	.68	46.6	.68	.01	.69	<.01	.34	<.01	.01
SEP 20...	.85	20.3	.41	.02	.43	.01	.55	.04	.04

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
JUN 28...	1130	290	<2	4	5	70	15	20	ND	<20
JUL 31...	1300	670	3	11	3	20	24	20	ND	40
AUG 24...	1020	120	5	3	<20	20	34	60	ND	20
SEP 20...	1050	80	ND	4	<2	30	<2	80	ND	ND

K BASED ON NON-IDEAL COLONY COUNT.

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 25...	1100	17	950	8.4	8.5	12.0	220	440	280	120
NOV 29...	1115	24	800	8.4	.0	13.0	K55	380	230	100
DEC 20...	1100	23	875	8.5	2.0	13.6	260	390	220	110
JAN 23...	1200	71	950	8.3	2.5	11.4	--	420	300	96
FEB 19...	1445	72	450	8.2	7.0	10.4	--	180	88	50
MAR 12...	1245	101	460	8.5	5.0	11.8	--	180	49	50
APR 10...	1135	35	1900	8.2	9.5	10.7	--	840	660	180
MAY 07...	0930	1850	160	7.6	7.5	10.6	--	64	25	18
JUN 12...	0915	1370	80	7.0	10.0	9.3	--	28	15	7.8
JUL 16...	1445	138	410	8.2	22.0	8.2	--	150	94	37
AUG 07...	1050	82	490	8.2	21.0	9.8	--	210	130	55
SEP 11...	1520	70	390	8.7	19.5	9.0	--	150	98	39

DATE	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
OCT 25...	34	33	.7	2.7	160	320	8.3	.4	7.6	625
NOV 29...	31	35	.8	2.7	150	300	7.8	.1	8.9	579
DEC 20...	29	30	.7	2.2	170	260	7.8	.4	8.2	553
JAN 23...	44	48	1.0	3.0	120	380	7.2	.4	7.6	661
FEB 19...	13	15	.5	1.9	90	100	7.2	.3	8.5	253
MAR 12...	14	16	.5	1.5	94	120	4.8	.3	9.0	276
APR 10...	96	110	1.6	5.3	180	870	15	.4	4.7	1390
MAY 07...	4.6	7.6	.4	1.5	39	28	2.6	.3	14	103
JUN 12...	2.0	4.6	.4	.7	13	16	1.5	.0	6.8	48.0
JUL 16...	14	15	.5	1.5	56	120	4.0	.4	5.6	233
AUG 07...	18	18	.5	2.0	84	160	5.5	.4	4.5	317
SEP 11...	12	15	.5	1.3	49	120	4.7	.3	5.2	229

K BASED ON NON-IDEAL COLONY COUNT.

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT 25...	.85	28.7	.55	.01	.56	.02	.84	.01	.01
NOV 29...	.79	37.5	.70	.00	.71	.07	--	.01	.01
DEC 20...	.75	34.5	.73	.01	.74	.06	.53	.00	.01
JAN 23...	.90	127	.53	.00	.53	.06	.36	.01	--
FEB 19...	.34	49.2	.68	.01	.69	.12	.55	.03	--
MAR 12...	.38	75.3	.80	.01	.81	.01	.40	.00	--
APR 10...	1.89	131	.72	.01	.73	.06	.87	.01	--
MAY 07...	.14	514	.53	.00	.53	.03	.42	.03	--
JUN 12...	.07	178	.21	.00	.21	.00	.69	.01	--
JUL 16...	.32	86.8	.41	.02	.43	.01	.86	.04	--
AUG 07...	.43	70.6	.57	.02	.59	.08	1.20	.01	--
SEP 11...	.31	43.8	.36	.01	.37	.05	.39	.03	--

DATE	TIME	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 25...	1100	180	--	--	0	5	--	8	--	20
NOV 29...	1115	400	--	--	0	6	--	2	--	20
DEC 20...	1100	100	--	--	0	3	--	2	--	<10
JAN 23...	1200	0	--	--	0	1	--	8	--	10
FEB 19...	1445	--	1	200	--	0	5	--	740	30
MAR 12...	1245	680	--	--	0	2	--	7	--	50
APR 10...	1135	400	--	--	1	3	--	0	--	10
MAY 07...	0930	--	1	300	0	10	2	11	7100	100
JUN 12...	0915	1400	--	--	1	0	--	19	--	150
JUL 16...	1445	420	--	--	0	6	--	10	--	30
AUG 07...	1050	--	2	100	0	10	3	5	360	10
SEP 11...	1520	80	--	--	1	5	--	7	--	40

06741510 BIG THOMPSON RIVER AT LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT									
25...	4	--	40	--	--	--	--	0	10
NOV									
29...	5	--	60	--	--	--	--	0	10
DEC									
20...	4	--	40	--	--	--	--	0	30
JAN									
23...	--	--	30	--	--	--	--	0	10
FEB									
19...	--	40	20	.0	2	4	3	--	--
MAR									
12...	3	--	10	--	--	--	--	0	20
APR									
10...	2	--	30	--	--	--	--	0	20
MAY									
07...	6	140	10	.0	1	7	1	0	40
JUN									
12...	140	--	10	--	--	--	--	3	30
JUL									
16...	14	--	20	--	--	--	--	0	20
AUG									
07...	41	40	20	.0	4	0	4	0	10
SEP									
11...	2	--	20	--	--	--	--	0	10

06741520 BIG THOMPSON RIVER BELOW LOVELAND, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°23'00", long 105°01'45", in NW¼ SE¼ sec.20, T.5 N., R.68 W., Larimer County, Hydrologic Unit 10190006, at county road 9 E bridge, about 0.3 mi (0.48 km) upstream from outlet ditch and 2.0 mi (3.2 km) southeast of Loveland.

DRAINAGE AREA.--540 mi² (1,400 km²), approximately.

PERIOD OF RECORD.--June 1979 to current year.

REMARKS.--Water-quality data for 1979 water year published in this volume.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
JUN 28...	1330	230	300	7.6	17.0	7.2	--	100	63	24
JUL 31...	1100	99	640	7.9	19.0	8.3	K780	220	140	46
AUG 24...	1130	52	925	8.2	18.5	9.4	K540	380	230	96
SEP 20...	1215	22	1050	8.4	18.5	10.6	1900	430	280	110

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
JUN 28...	9.7	16	.7	1.3	37	82	4.1	.3	8.3	171
JUL 31...	25	35	1.0	2.8	78	200	10	.5	5.5	375
AUG 24...	34	48	1.1	3.7	150	320	14	.8	12	627
SEP 20...	38	72	1.5	5.5	150	420	19	1.1	5.6	777

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
JUN 28...	.23	106	.56	.01	.57	<.01	.10	.19	.11
JUL 31...	.51	101	.75	.04	.79	.19	.72	.55	.37
AUG 24...	.85	88.5	1.80	.12	1.9	.43	.92	.92	.81
SEP 20...	1.06	46.2	3.10	.31	3.4	1.30	1.80	2.00	1.5

DATE	TIME	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
JUN 28...	1330	430	<2	9	6	70	11	20	ND	20
JUL 31...	1100	550	6	6	3	<10	46	20	ND	30
AUG 24...	1130	300	ND	3	4	<10	3	50	ND	20
SEP 20...	1215	<100	ND	ND	2	30	3	60	ND	<20

K BASED ON NON-IDEAL COLONY COUNT.

06741520 BIG THOMPSON RIVER BELOW LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT 25...	1230	28	1080	8.1	13.0	10.5	2800	440	290	110
NOV 29...	1225	35	925	8.3	2.5	13.0	K50	390	240	95
DEC 20...	1215	36	975	8.5	5.5	13.4	K10	390	230	100
JAN 23...	1320	86	1080	8.3	3.0	11.0	--	420	280	95
FEB 19...	1610	79	580	8.0	7.5	9.8	--	220	110	56
MAR 12...	1050	121	600	7.9	5.0	11.8	--	240	130	60
APR 10...	1315	53	1850	8.3	11.5	12.6	--	790	590	170
MAY 07...	1330	1850	195	7.7	9.0	10.0	--	73	34	20
JUN 12...	1330	1370	110	7.3	13.0	8.6	--	42	0	12
JUL 16...	1700	167	540	8.3	23.5	8.0	--	200	130	48
AUG 07...	1330	111	650	8.5	23.5	9.8	--	270	170	65
SEP 11...	1115	112	440	7.9	17.5	8.2	--	170	100	42

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT 25...	40	65	1.4	5.5	150	380	21	1.4	7.6	737
NOV 29...	36	57	1.3	5.5	150	320	15	.4	8.7	639
DEC 20...	35	49	1.1	4.3	160	320	15	.9	7.6	638
JAN 23...	45	56	1.2	3.7	140	390	10	.5	7.7	696
FEB 19...	19	29	.9	2.7	110	160	10	.4	8.5	356
MAR 12...	21	30	.9	2.2	110	180	8.5	.4	8.5	381
APR 10...	89	120	1.9	5.7	200	760	25	.7	5.6	1300
MAY 07...	5.6	9.2	.5	1.6	39	37	3.1	.3	14	117
JUN 12...	3.0	8.0	.5	.8	57	23	1.9	.0	6.8	91.0
JUL 16...	20	26	.8	2.2	73	170	6.1	.6	6.1	326
AUG 07...	25	33	.9	2.8	100	230	8.3	.7	4.9	435
SEP 11...	15	22	.7	1.9	65	140	7.3	.4	5.5	278

K BASED ON NON-IDEAL COLONY COUNT.

06741520 BIG THOMPSON RIVER BELOW LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT									
25...	1.00	55.7	3.30	.31	3.6	2.20	4.70	1.60	1.4
NOV									
29...	.87	61.1	2.40	.17	2.6	1.90	--	1.70	1.8
DEC									
20...	.87	62.2	2.20	.14	2.3	1.20	1.90	4.90	1.3
JAN									
23...	.95	162	.75	.13	.88	.80	.86	.46	--
FEB									
19...	.48	76.2	.91	.09	1.0	1.70	2.70	.84	--
MAR									
12...	.52	124	.95	.05	1.0	.83	1.40	.51	--
APR									
10...	1.77	187	1.10	.13	1.2	1.70	2.60	.81	--
MAY									
07...	.16	584	.55	.01	.56	.09	.92	.04	--
JUN									
12...	.12	337	.24	.01	.25	.04	1.00	.02	--
JUL									
16...	.44	147	.69	.05	.74	.13	.97	.21	--
AUG									
07...	.59	130	1.00	.08	1.1	.23	1.30	.28	--
SEP									
11...	.38	84.1	.95	.05	1.0	.26	.92	.46	--

DATE	TIME	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
OCT										
25...	1230	200	--	--	0	3	--	4	--	20
NOV										
29...	1225	300	--	--	0	5	--	0	--	10
DEC										
20...	1215	90	--	--	0	0	--	4	--	10
JAN										
23...	1320	0	--	--	0	--	--	12	--	<10
FEB										
19...	1610	--	1	200	--	10	5	--	830	20
MAR										
12...	1050	400	--	--	0	3	--	7	--	20
APR										
10...	1315	250	--	--	1	3	--	3	--	20
MAY										
07...	1330	--	2	300	0	10	3	14	8000	100
JUN										
12...	1330	2000	--	--	1	5	--	17	--	100
JUL										
16...	1700	430	--	0	0	10	0	15	560	30
AUG										
07...	1330	--	1	100	0	0	3	5	340	10
SEP										
11...	1115	190	--	--	0	6	--	9	--	60

06741520 BIG THOMPSON RIVER BELOW LOVELAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT									
25...	3	--	40	--	--	--	--	0	30
NOV									
29...	5	--	50	--	--	--	--	0	10
DEC									
20...	4	--	40	--	--	--	--	0	30
JAN									
23...	10	--	30	--	--	--	--	0	10
FEB									
19...	--	50	20	.0	3	2	3	--	--
MAR									
12...	0	--	20	--	--	--	--	0	20
APR									
10...	3	--	40	--	--	--	--	0	20
MAY									
07...	8	170	10	.0	1	10	2	0	40
JUN									
12...	100	--	9	--	--	--	--	1	30
JUL									
16...	9	40	20	--	2	5	--	0	40
AUG									
07...	2	40	20	.0	3	0	4	0	10
SEP									
11...	6	--	30	--	--	--	--	0	40

06742500 CARTER LAKE NEAR BERTHOUD, CO

LOCATION.--Lat 40°19'28", long 105°12'41", in SE¼ sec.10, T.4 N., R.70 W., Larimer County, Hydrologic Unit 10190006, in hoist house 293 ft (89 m) from right abutment of Carter Lake Dam on Dry Creek, 7.0 mi (11.3 km) west of Berthoud, and 8.9 mi (14.3 km) upstream from mouth. Water-quality sampling site near center of reservoir.

WATER-CONTENTS RECORDS

PERIOD OF RECORD.--March 1954 to current year.

GAGE.--Nonrecording gage read at irregular intervals from 1 to 13 days. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes enlarging the natural basin of Carter Lake. Storage began in February 1954. Usable capacity, 113,500 acre-ft (140 hm^3) between elevations 5,618.00 ft (1,712.336 m), trashrack sill at outlet, and 5,763.00 ft (1,756.562 m), maximum water surface, 6 ft (1.8 m) below crest of dam. Dead storage, 3,310 acre-ft (4.08 hm^3). Figures given represent usable contents. Water diverted from Colorado River basin through Alva B. Adams tunnel is pumped from Flatiron Reservoir into Carter Lake for supplemental irrigation supply to Little Thompson River and St. Vrain and Boulder Creek basins. Water above elevation 5,620 ft (1,713.0 m) may be released for return to Flatiron Reservoir where pump turbines can operate in reverse to generate power and water can be used for irrigation in Big Thompson or Cache la Poudre River basins.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 109,100 acre-ft (135 hm^3) Apr. 27-29, 1971, elevation, 5,759.12 ft (1,755.380 m); minimum observed since appreciable storage was attained, 960 acre-ft (1.18 hm^3) Oct. 25, 1954, elevation, 5,621.40 ft (1,713.403 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 109,000 acre-ft (134 hm^3) May 19, elevation, 5,759.08 ft (1,755.368 m); minimum observed, 59,300 acre-ft (73.1 hm^3) Oct. 29, elevation, 5,711.48 ft (1,740.859 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	5,715.88	63,470	-
Oct. 31	5,712.24	60,010	-3,460
Nov. 30	5,723.50	70,910	+10,900
Dec. 31	5,730.98	78,490	+7,580
CAL YR 1979			-3,130
Jan. 31	5,741.38	89,410	+10,920
Feb. 29	5,752.16	101,200	+11,790
Mar. 31	5,756.36	105,900	+4,700
Apr. 30	5,757.22	106,900	+1,000
May 31	5,758.10	107,900	+1,000
June 30	5,755.14	104,500	-3,400
July 31	5,745.38	93,730	-10,770
Aug. 31	5,723.30	70,710	-23,020
Sept. 30	5,711.52	59,330	-11,380
WTR YR 1980			-4,140

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1970 to current year.

REMARKS.--Samples collected at surface near center of reservoir. Reservoir storage represents usable contents.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)
OCT				
10...	1335	.1	16.0	8.4
10...	1336	5.0	15.5	8.6
10...	1337	10	15.5	8.5
10...	1338	20	15.5	8.4
10...	1339	25	15.5	8.4
10...	1340	30	15.5	8.4
10...	1341	40	12.5	6.7
10...	1342	50	8.5	7.2
10...	1343	60	8.0	7.2
10...	1344	70	7.5	7.2
10...	1345	75	7.5	7.0
10...	1346	80	7.0	6.8
10...	1347	90	7.0	6.8
10...	1348	100	7.0	6.8
10...	1349	110	7.0	6.7
10...	1350	120	7.0	6.2
APR				
22...	1400	.1	6.5	11.2
22...	1401	5.0	6.0	10.9
22...	1402	10	5.5	9.8
22...	1403	20	4.5	8.3
22...	1404	25	4.0	8.1
22...	1405	30	4.0	7.8
22...	1406	40	4.0	7.6
22...	1407	50	4.0	7.5
22...	1408	60	3.5	7.4
22...	1409	70	3.5	8.3
22...	1410	75	3.5	8.2
22...	1411	80	3.5	8.2
22...	1412	90	3.5	8.0
22...	1413	100	3.5	8.0
22...	1414	110	3.5	7.8
22...	1415	120	3.5	7.6
22...	1416	125	3.5	7.5
MAY				
20...	1015	.1	11.0	9.8
20...	1016	5.0	10.0	10.6
20...	1017	10	10.0	10.4
20...	1018	20	9.5	11.0
20...	1019	25	9.0	10.6
20...	1020	30	8.5	10.6
20...	1021	40	6.5	10.5
20...	1022	50	5.0	10.6
20...	1023	60	5.0	10.4
20...	1024	70	4.5	10.3
20...	1025	75	4.0	9.8
20...	1026	80	4.0	9.6
20...	1027	90	4.0	9.3
20...	1028	100	4.0	9.4
20...	1029	110	4.0	8.6
20...	1030	120	4.0	8.5
20...	1031	125	4.0	7.6
JUN				
24...	1500	.1	20.5	7.6
24...	1501	5.0	20.5	7.9
24...	1502	10	20.0	8.0
24...	1503	20	18.0	8.9
24...	1504	25	14.5	9.4
24...	1505	30	11.5	9.2
24...	1506	40	10.0	9.0
24...	1507	50	9.0	9.5
24...	1508	60	8.0	9.1
24...	1509	70	7.0	9.1
24...	1510	75	6.0	9.4
24...	1511	80	6.0	9.2
24...	1512	90	5.0	9.6
24...	1513	100	5.0	9.6
24...	1514	110	5.0	9.5
24...	1515	120	4.5	9.4
JUL				
30...	1345	.1	22.5	6.4
30...	1346	5.0	22.5	6.6
30...	1347	10	22.0	6.6
30...	1348	20	20.5	7.0
30...	1349	25	16.0	7.9
30...	1350	30	14.5	8.0
30...	1351	40	11.0	7.6
30...	1352	50	9.0	7.6
30...	1353	60	8.0	7.6
30...	1354	70	7.0	7.8
30...	1355	75	6.0	7.9
30...	1356	80	6.0	8.0
30...	1357	90	5.5	8.1
30...	1358	100	5.0	8.2
30...	1359	110	5.0	8.2
30...	1400	120	5.0	8.2
30...	1401	125	4.5	8.2
AUG				
14...	1530	.1	22.0	6.7
14...	1531	5.0	21.0	6.8
14...	1532	10	21.0	6.7
14...	1533	20	21.0	6.7
14...	1534	25	18.0	7.1
14...	1535	30	14.0	7.6
14...	1536	40	10.5	7.4
14...	1537	50	9.0	7.6
14...	1538	60	8.0	7.8
14...	1539	70	7.0	7.7
14...	1540	75	7.0	7.8
14...	1541	80	7.0	7.9
14...	1542	90	6.0	8.0
14...	1543	100	5.5	8.0
14...	1544	110	5.0	7.9
14...	1545	120	5.0	7.8
SEP				
30...	1410	.1	18.0	7.4
30...	1411	5.0	17.5	7.4
30...	1412	10	17.0	7.4
30...	1413	20	17.0	7.4
30...	1414	25	16.5	7.2
30...	1415	30	16.0	7.1
30...	1416	40	12.5	6.4
30...	1417	50	9.5	6.5
30...	1418	60	8.5	6.6
30...	1419	70	7.5	6.6
30...	1420	75	7.0	6.6
30...	1421	80	6.5	6.6
30...	1422	90	6.5	6.6

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TRANSPARENCY (SECCHI DISK) (IN)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
OCT 10...	1335	.1	98	7.9	85.2	--	--	--	50.0
APR 22...	1400	.1	90	8.2	135	<1	K1	--	58.0
MAY 20...	1015	.1	90	8.4	8.0	<1	<1	--	51.0
JUN 24...	1500	.1	90	7.8	90.0	<1	<1	--	48.0
JUL 30...	1345	.1	85	7.6	65.0	--	<1	K5	55.0
AUG 14...	1530	.1	100	8.8	108	<1	<1	--	47.0
SEP 30...	1410	.1	80	7.7	122	<1	<1	--	66.0

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ALGAL GROWTH POTENTIAL, BOTTLE TEST (MG/L)	PHYTOPLANKTON, TOTAL (CELLS PER ML)
OCT 10...	.07	.00	--	.01	.08	.02	.00	--	--
APR 22...	.08	.05	--	.00	.05	.04	.03	2.0	3200
MAY 20...	.07	.05	--	.00	.05	.00	.01	.3	2300
JUN 24...	.07	.01	--	.01	.02	.01	.05	.3	77
JUL 30...	.07	.10	--	.00	.10	.00	.02	--	0
AUG 14...	.06	.00	.00	.00	.00	.00	.02	.4	130
SEP 30...	.09	.00	--	.00	.00	.00	.04	.4	300

K BASED ON NON-IDEAL COLONY COUNT.

06742500 CARTER LAKE NEAR BERTHOUD, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	APR 22,80	MAY 20,80	JUN 24,80	JUL 30,80	AUG 14,80	SEP 30,80
TIME	1400	1015	1500	0000	1530	1410
TOTAL CELLS/ML	3200	2300	77	0	130	300
DIVERSITY: DIVISION	0.5	1.5	0.9	0.0	1.4	1.1
.CLASS	0.5	1.5	0.9	0.0	1.4	1.1
..ORDER	0.9	2.0	0.9	0.0	1.4	1.4
...FAMILY	1.0	2.3	0.9	0.0	1.4	1.5
....GENUS	1.4	2.5	0.9	0.0	1.4	2.2

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)												
.CHLOROPHYCEAE												
..CHLOROCOCCALES												
...MICRACTINIACEAE												
....MICRACTINIUM	--	-	52	2	--	-	--	-	--	-	--	-
...OOCYSTACEAE												
....ANKISTRODESMUS	64	2	26	1	--	-	--	-	13	10	13	4
....CHODATELLA	77	2	100	4	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	13	1	--	-	--	-	--	-	--	-
...SCENEDESMACEAE												
....SCENEDESMUS	52	2	360#	16	51#	67	--	-	--	-	--	-
....TETRASTRUM	--	-	52	2	--	-	--	-	--	-	52#	17
CHRYSOPHYTA												
.BACILLARIOPHYCEAE												
..CENTRALES												
...COSCINODISCACEAE												
....CYCLOTELLA	190	6	500#	22	--	-	--	-	13	10	90#	30
....MELOSIRA	2500#	77	--	-	--	-	--	-	--	-	100#	35
..PENNALES												
...ACHNANTHACEAE												
....COCCONEIS	--	-	--	-	--	-	--	-	--	-	13	4
...DIATOMACEAE												
....DIATOMA	130	4	--	-	--	-	--	-	--	-	--	-
...FRAGILARIACEAE												
....ASTERIONELLA	100	3	13	1	--	-	--	-	--	-	--	-
...NITZSCHIACEAE												
....NITZSCHIA	--	-	130	6	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)												
.CRYPTOPHYCEAE												
..CRYPTOMONADALES												
...CRYPTOCHRYSIDACEAE												
....CHROOMONAS	--	-	--	-	--	-	--	-	90#	70	26	9
CYANOPHYTA (BLUE-GREEN ALGAE)												
.CYANOPHYCEAE												
..CHROOCOCCALES												
...CHROOCOCCACEAE												
....ANACYSTIS	100	3	140	6	26#	33	--	-	13	10	--	-
..HORMOGONALES												
...NOSTOCACEAE												
....APHANIZOMENON	--	-	900#	39	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

06744000 BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, CO

LOCATION.--Lat 40°21'00", long 104°47'04", in SW¼SE¼ sec.33, T.5 N., R.66 W., Weld County, Hydrologic Unit 10190006, on left bank just southeast of gage on Evans Town ditch, 0.7 mi (1.1 km) upstream from highway bridge, 1.6 mi (2.6 km) upstream from mouth, and 4.2 mi (6.8 km) west of La Salle.

DRAINAGE AREA.--828 mi^2 (2,145 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1914 to October 1915, March 1927 to current year. Prior to October 1933 monthly discharge only, published in WSP 1310. Published as Thompson River at mouth, near La Salle, 1934-47.

REVISED RECORDS.--WSP 976: 1941(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,680 ft (1,426 m), from topographic map. Apr. 1, 1914, to Oct. 31, 1915, nonrecording gage, and Mar. 1, 1927, to Sept. 30, 1951, water-stage recorder, at bridge 0.7 mi (1.1 km) downstream at different datums. Datum lowered 0.50 ft (0.152 m) May 21, 1962.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 95,000 acres (384 km^2) above station, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,220 ft^3/s (176 m^3/s) May 1, 1980, gage height, 9.91 ft (3.021 m), due to dam failure, site and datum then in use, from rating curve extended above 4,500 ft^3/s (127 m^3/s); maximum gage height, 8.72 ft (2.658 m) May 9, 1957, present datum; no flow at times in 1934-35, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,220 ft^3/s (176 m^3/s) at 1600 May 1, gage height, 9.91 ft (3.021 m); minimum daily, 46 ft^3/s (1.30 m^3/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	130	117	128	105	210	210	4370	1380	122	124	156
2	48	119	117	133	135	197	219	4530	1360	133	122	144
3	191	122	130	126	139	208	221	3640	1270	216	124	124
4	230	124	130	130	154	244	233	3230	1220	202	128	117
5	233	133	147	130	161	238	238	3180	1270	176	126	124
6	230	130	142	133	154	208	247	2970	1380	186	130	128
7	227	124	130	124	156	233	241	2750	1480	128	119	135
8	84	126	124	111	151	216	230	2690	1390	142	117	135
9	71	122	119	117	113	221	233	2530	1210	113	133	139
10	76	122	119	122	133	227	227	2300	1280	111	147	156
11	71	111	119	122	139	235	224	2100	1420	107	130	166
12	73	115	103	126	137	241	221	2430	1400	128	135	137
13	76	115	101	144	144	224	210	2370	1270	149	133	135
14	73	119	107	151	147	171	205	2010	1070	144	135	119
15	74	124	113	178	139	156	330	1860	900	144	233	111
16	74	117	107	189	137	147	363	3360	780	154	279	109
17	84	115	103	181	130	139	378	3580	670	149	285	109
18	89	122	105	174	147	142	363	3640	556	149	285	103
19	97	124	101	174	147	133	381	3130	501	161	276	95
20	103	130	99	166	164	128	414	2730	556	151	285	103
21	103	107	117	151	166	137	441	2490	548	142	273	113
22	103	135	128	147	186	139	405	2330	514	139	273	93
23	111	137	130	151	210	137	514	2320	483	144	261	101
24	107	130	128	144	191	135	1060	2280	378	137	151	95
25	101	126	130	137	178	130	1400	2350	264	139	149	82
26	101	124	128	95	161	135	1150	2180	144	161	159	76
27	99	126	135	101	176	135	990	1890	135	133	147	76
28	93	124	133	97	216	147	875	1690	133	122	147	74
29	95	109	130	95	233	178	798	1510	115	117	147	73
30	139	107	111	91	---	200	870	1480	115	115	149	74
31	144	---	115	89	---	205	---	1450	---	126	174	---
TOTAL	3446	3669	3718	4157	4549	5596	13891	81370	25192	4440	5476	3402
MEAN	111	122	120	134	157	181	463	2625	840	143	177	113
MAX	233	137	147	189	233	244	1400	4530	1480	216	285	166
MIN	46	107	99	89	105	128	205	1450	115	107	117	73
AC-FT	6840	7280	7370	8250	9020	11100	27550	161400	49970	8810	10860	6750

CAL YR 1979 TOTAL 63303 MEAN 173 MAX 1710 MIN 39 AC-FT 125600
WTR YR 1980 TOTAL 159906 MEAN 434 MAX 4530 MIN 46 AC-FT 315200

06744000 BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1954 to July 1956, October 1967 to September 1968, October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT 26...	0835	95	1950	7.8	8.5	8.9	810	550
NOV 08...	1330	119	1750	--	8.5	10.7	710	580
DEC 07...	0955	128	2000	--	2.0	10.7	810	550
JAN 17...	1225	186	1800	8.0	3.5	10.6	730	520
FEB 14...	1225	142	1650	7.7	.0	10.8	650	450
MAR 20...	0750	130	3000	8.2	5.0	9.4	1200	900
APR 10...	0740	221	2140	8.1	8.0	9.2	790	580
MAY 22...	0855	2340	470	8.0	13.0	8.6	160	95
JUN 11...	1525	1550	355	7.8	18.0	7.7	110	67
JUL 08...	0930	159	1650	8.0	19.5	6.7	650	430
AUG 07...	0855	130	1980	8.0	19.0	--	740	510
SEP 24...	1400	95	1800	8.1	17.0	8.7	760	520

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 26...	160	100	130	2.0	7.1	260	840	20	1.1
NOV 08...	140	88	110	1.8	5.5	130	760	18	1.0
DEC 07...	160	100	140	2.1	5.9	260	810	22	1.0
JAN 17...	160	92	120	1.9	5.5	210	710	18	.8
FEB 14...	130	78	99	1.7	4.4	200	630	19	.7
MAR 20...	220	160	220	2.8	6.1	310	1300	32	1.1
APR 10...	150	100	130	2.0	4.7	210	800	18	.8
MAY 22...	37	17	24	.8	2.2	67	140	5.0	.4
JUN 11...	25	12	17	.7	1.4	45	100	4.4	.4
JUL 08...	130	78	110	1.9	4.8	220	600	16	1.0
AUG 07...	160	94	150	2.4	5.7	230	770	21	.9
SEP 24...	160	90	160	2.2	4.0	240	780	22	1.0

06744000 BIG THOMPSON RIVER AT MOUTH, NEAR LA SALLE, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 26...	7.4	1440	1.96	369	3.0	.20	30	100
NOV 08...	8.4	1220	1.66	392	3.3	.15	10	60
DEC 07...	9.6	1420	1.93	491	3.3	.32	10	100
JAN 17...	9.1	1230	1.67	618	2.1	.25	<10	70
FEB 14...	9.8	1100	1.50	422	2.5	.23	20	80
MAR 20...	7.8	2150	2.92	755	3.6	.26	30	120
APR 10...	6.8	1350	1.84	806	2.3	.18	<10	50
MAY 22...	13	282	.38	1780	.78	.05	60	20
JUN 11...	7.4	197	.27	824	.51	.06	40	10
JUL 08...	8.5	1090	1.48	468	2.3	.14	<10	50
AUG 07...	8.3	1340	1.82	470	3.2	.13	10	80
SEP 24...	8.5	1350	1.84	346	3.3	.17	<10	80

06746095 JOE WRIGHT CREEK ABOVE JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°32'24", long 105°52'56", in SE¼SE¼ sec.26, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 150 ft (46 m) below unnamed tributary and Colorado Highway 14 culvert crossing, 1.5 mi (2.4 km) northeast of Cameron Pass, 1.5 mi (2.4 km) southwest of Joe Wright Dam, and 8 mi (12.9 km) east of Gould.

DRAINAGE AREA.--3.01 mi² (7.80 km²).

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,990 ft (3,045 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97 ft³/s (2.75 m³/s) June 15, 1979, gage height, 1.58 ft (0.482 m); maximum gage height, 3.50 ft (1.607 m) June 6, 1980 (backwater from ice); minimum daily discharge, 0.20 ft³/s (0.006 m³/s) Jan. 30-Apr. 4, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 80 ft³/s (2.27 m³/s) at 1630 June 23, gage height, 1.45 ft (0.442 m); maximum gage height, 3.50 ft (1.067 m) at 1500 June 6 (backwater from ice); minimum daily discharge, 0.28 ft³/s (0.008 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.80	.45	.50	.45	.45	.35	1.7	20	24	6.7	2.1
2	1.0	.82	.45	.50	.45	.45	.35	1.4	24	25	6.3	1.8
3	1.0	.84	.45	.50	.45	.45	.35	1.5	27	23	5.7	1.6
4	1.0	.80	.45	.50	.45	.45	.35	1.7	29	22	5.2	1.4
5	.99	.80	.45	.50	.45	.43	.35	2.0	29	32	4.9	.82
6	.94	.80	.45	.50	.45	.40	.35	2.3	30	29	4.5	.72
7	.94	.80	.45	.50	.45	.38	.35	2.5	31	28	4.1	.68
8	.94	.80	.45	.50	.45	.37	.35	2.8	33	27	3.9	4.0
9	.94	.80	.45	.50	.45	.36	.35	3.2	38	25	3.7	1.8
10	.94	.74	.45	.50	.45	.35	.35	3.1	42	24	3.4	1.1
11	.91	.68	.45	.50	.45	.35	.35	3.0	50	23	3.1	.97
12	.86	.60	.45	.50	.45	.35	.35	2.9	55	23	2.9	1.8
13	.86	.60	.45	.50	.45	.35	.37	2.6	50	22	2.8	1.1
14	.86	.60	.45	.50	.45	.35	.41	2.2	46	19	2.8	.78
15	.86	.60	.45	.50	.45	.35	.41	2.0	40	17	5.8	.72
16	.96	.60	.45	.50	.45	.35	.41	2.3	36	16	4.5	.70
17	1.1	.60	.46	.50	.45	.35	.50	2.8	38	14	3.5	.66
18	.89	.60	.48	.50	.45	.35	.58	3.8	49	14	2.7	.64
19	.80	.58	.50	.50	.45	.35	.70	5.0	60	13	2.4	.64
20	.82	.54	.50	.50	.45	.35	.90	6.2	60	12	2.1	1.4
21	.83	.50	.50	.50	.45	.35	1.1	7.6	64	11	2.2	.73
22	.50	.45	.50	.50	.45	.35	1.3	9.4	66	11	2.1	.67
23	.28	.45	.50	.50	.45	.35	1.4	12	68	10	2.0	.66
24	.64	.45	.50	.50	.45	.35	1.3	15	66	11	2.2	.64
25	.89	.45	.50	.50	.45	.35	1.1	15	62	11	5.7	.64
26	.80	.45	.50	.50	.45	.35	1.2	13	60	9.1	5.0	.64
27	.86	.45	.50	.50	.45	.35	1.3	15	56	8.1	3.2	.64
28	.90	.45	.50	.50	.45	.35	1.5	17	44	7.4	2.5	.58
29	.80	.45	.50	.48	.45	.35	1.7	16	26	7.0	2.1	.53
30	.80	.45	.50	.45	---	.35	1.9	15	25	8.5	2.3	.53
31	.80	---	.50	.45	---	.35	---	15	---	7.9	2.5	---
TOTAL	26.71	18.55	14.64	15.38	13.05	11.44	22.28	205.0	1324	534.0	112.8	31.69
MEAN	.86	.62	.47	.50	.45	.37	.74	6.61	44.1	17.2	3.64	1.06
MAX	1.1	.84	.50	.50	.45	.45	1.9	17	68	32	6.7	4.0
MIN	.28	.45	.45	.45	.45	.35	.35	1.4	20	7.0	2.0	.53
AC-FT	53	37	29	31	26	23	44	407	2630	1060	224	63

CAL YR 1979 TOTAL 2307.84 MEAN 6.32 MAX 59 MIN .20 AC-FT 4580
WTR YR 1980 TOTAL 2329.54 MEAN 6.36 MAX 68 MIN .28 AC-FT 4620

NOTE.--NO GAGE-HEIGHT RECORD NOV. 10 TO JUNE 4.

06746110 JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO

LOCATION.--Lat 40°33'43", long 105°52'09", in SE¼NE¼ sec.24, T.7 N., R.76 W., Larimer County, Hydrologic Unit 10190007, on left bank 500 ft (152 m) downstream from unnamed tributary, 2,000 ft (610 m) downstream from Joe Wright Dam, and 3 mi (4.8 km) southwest of Chambers Lake.

DRAINAGE AREA.--6.90 mi^2 (17.9 km^2).

PERIOD OF RECORD.--June 29, 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,710 ft (2,960 m), from topographic map.

REMARKS.--Records poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145 ft^3/s (4.11 m^3/s), June 30, 1978, gage height, 2.46 ft (0.750 m); minimum daily, 0.27 ft^3/s (0.008 m^3/s) Jan. 31 to Feb. 14, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40 ft^{3}s (1.13 m^3/s) at 1600 June 26, gage height, 1.99 ft (0.607 m); minimum daily, 0.40 ft^3/s (0.01 m^3/s) Mar. 29 to Apr. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	.90	.70	1.0	.90	.90	.40	.60	4.6	23	5.2	1.9
2	2.7	.74	.70	1.0	.90	.90	.40	.60	4.7	21	6.9	1.9
3	2.6	.70	.60	1.0	.90	.90	.40	.60	5.1	21	6.9	1.9
4	2.4	.70	.60	1.0	.90	.70	.40	.60	6.0	21	6.9	1.9
5	2.2	.70	.60	1.0	.90	.70	.40	.60	6.6	21	6.2	1.4
6	2.1	.70	.60	1.0	.90	.70	.40	.60	8.1	21	4.3	.90
7	2.0	.70	.60	1.0	.90	.70	.40	.60	7.5	20	3.6	.90
8	1.9	.70	.60	1.0	.90	.70	.40	.60	8.3	19	2.1	1.4
9	1.8	.70	.60	1.0	.90	.60	.40	.60	9.2	19	2.5	1.2
10	1.7	.70	.60	1.0	.90	.60	.40	.60	9.3	19	3.0	1.2
11	1.6	.70	.80	1.0	.90	.60	.40	.60	10	19	3.3	1.1
12	1.5	.70	.80	1.0	.90	.60	.40	.60	12	20	3.0	1.6
13	1.4	.70	.80	1.0	.90	.50	.40	.62	12	20	2.3	1.6
14	1.3	.70	.80	1.0	.90	.50	.40	.63	12	20	6.9	1.7
15	1.2	.70	.80	1.0	.90	.50	.40	.66	11	19	16	1.6
16	1.1	.70	.90	1.0	.90	.50	.40	.68	12	19	16	1.7
17	1.1	.70	1.0	1.0	.90	.50	.41	.70	11	17	16	1.9
18	1.0	.70	1.0	1.0	.90	.45	.42	.70	9.2	14	16	2.1
19	1.0	.70	1.0	1.0	.90	.45	.44	.70	10	11	16	2.1
20	1.0	.70	1.0	1.0	.90	.45	.45	.70	11	8.4	15	2.5
21	1.0	.70	1.0	1.0	.90	.45	.46	.84	11	7.3	15	2.1
22	1.0	.70	1.0	1.0	.90	.45	.48	1.0	11	7.3	15	2.3
23	1.0	.70	1.0	1.0	.90	.45	.49	1.2	11	7.3	11	2.5
24	1.0	.70	1.0	1.0	.90	.45	.50	1.4	11	8.4	2.6	2.5
25	1.0	.70	1.0	1.0	.90	.45	.52	1.7	11	9.8	4.9	2.5
26	1.0	.70	1.0	1.0	.90	.45	.53	2.0	20	9.8	9.4	2.6
27	1.0	.70	1.0	1.0	.90	.45	.55	2.3	37	9.8	11	2.6
28	1.0	.70	1.0	1.0	.90	.45	.56	2.7	33	8.7	11	2.6
29	1.0	.70	1.0	1.0	.90	.40	.58	3.2	26	3.6	5.9	2.6
30	1.0	.70	1.0	1.0	---	.40	.60	3.9	26	2.5	2.3	2.6
31	1.0	---	1.0	1.0	---	.40	---	4.6	---	3.0	1.9	---
TOTAL	45.5	21.24	26.10	31.0	26.10	17.25	13.39	37.43	376.6	449.9	248.1	57.40
MEAN	1.47	.71	.84	1.00	.90	.56	.45	1.21	12.6	14.5	8.00	1.91
MAX	2.9	.90	1.0	1.0	.90	.90	.60	4.6	37	23	16	2.6
MIN	1.0	.70	.60	1.0	.90	.40	.40	.60	4.6	2.5	1.9	.90
AC-FT	90	42	52	61	52	34	27	74	747	892	492	114

CAL YR 1979 TOTAL 4583.60 MEAN 12.6 MAX 105 MIN .27 AC-FT 9090
WTR YR 1980 TOTAL 1350.01 MEAN 3.69 MAX 37 MIN .40 AC-FT 2680

NOTE.--NO GAGE-HEIGHT RECORD OCT. 1 TO MAY 30.

TRANSBASIN DIVERSIONS FROM NORTH PLATTE RIVER BASIN TO CACHE LA POUDRE RIVER BASIN IN COLORADO

The following seven diversions, which are equipped with water-stage recorders, divert water from tributaries of the North Platte River to the Cache la Poudre River or its tributaries. Records furnished by Colorado Division of Water Resources.

06745500 Cameron Pass ditch diverts water from tributaries of Michigan River in sec.10, T.6 N., R.76 W., to Joe Wright Creek (tributary to Cache la Poudre River) in sec.2, T.6 N., R.76 W.

06746000 Michigan ditch diverts water from Michigan River, headgate in sec.12, T.6 N., R.76 W., and many small tributaries and Agnes Creek (tributary to Michigan River), headgate in sec.15, T.6 N., R.76 W., to Joe Wright Creek (tributary to Cache la Poudre River) in sec.2, T.6 N., R.76 W.

06746500 Skyline ditch diverts water from West Branch Laramie River (tributary to Laramie River), headgate in sec.14, T.8 N., R.76 W., to Chambers Lake (tributary to Cache la Poudre River) in sec.31, T.8 N., R.75 W.

06747000 Laramie-Poudre tunnel diverts water from Laramie River in sec.7, T.8 N., R.75 W., and Rawah Creek (tributary to Laramie River) in sec.14, T.9 N., R.76 W., to Cache la Poudre River in sec.9, T.8 N., R.75 W.

06747200 Bob Creek ditch diverts water from Nunn Creek (tributary to Laramie River) in sec.9, T.9 N., R.75 W., to Roaring Creek (tributary to Cache la Poudre River) in sec.11, T.9 N., R.75 W.

06750000 Columbine ditch diverts water from Nunn Creek (tributary to Laramie River) in sec.3, T.9 N., R.75 W., to North Fork Cache la Poudre River (tributary to Cache la Poudre River) in sec.25, T.10 N., R.75 W.

06750500 Wilson supply ditch diverts water from Sand Creek in sec.22, T.11 N., R.75 W., and at times includes water diverted from tributaries of Deadman Creek in sec.9, T.10 N., R.75 W. Diversion is from the Laramie River basin to Sheep Creek (tributary to North Fork Cache la Poudre River) in sec.23, T.11 N., R.75 W., in the Cache la Poudre River basin. Records represent total flow diverted from the Laramie River basin by Wilson supply ditch.

REVISED RECORDS.--WSP 1310: 1945, 1947.

INFLOW FROM TRANSBASIN DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Month	06745500 Cameron Pass ditch	06746000 Michigan ditch	06746500 Skyline ditch	06747000 Laramie-Poudre tunnel	06747200 Bob Creek ditch	06750000 Columbine ditch	06750500 Wilson supply ditch	Total
October	0	0	0	0	0	0	0	0
November.	0	0	0	0	0	0	0	0
December.	0	0	0	0	0	0	0	0
January	0	0	0	0	0	0	0	0
February.	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0
June.	112	486	0	4,650	0	0	213	5,461
July.	42	479	205	7,330	0	0	74	8,130
August.	0	139	0	2,570	0	0	0	2,709
September	0	11	0	1,320	0	0	0	1,331
Water year 1980	154	1,115	205	15,870	0	0	287	17,630

06749500 CACHE LA POUDRE RIVER NEAR FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°42'04", long 105°14'27", in NW¼SW¼ sec.33, T.9 N., R.70 W., Larimer County, Hydrologic Unit 10190007, 1,000 ft (300 m) upstream from North Fork and 11 mi (18 km) northwest of Fort Collins.

PERIOD OF RECORD.--October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 24...	1450	39	82	7.0	8.0	9.8	26	0	7.2
NOV 29...	1510	22	97	7.4	.0	11.9	31	0	8.7
DEC 04...	1207	36	98	--	.0	11.5	35	0	9.7
JAN 24...	1245	19	103	--	1.0	13.8	39	0	11
FEB 20...	1200	31	109	8.2	.0	11.8	40	0	11
MAR 24...	1335	36	130	8.3	7.0	9.0	44	0	12
APR 24...	1045	E700	107	7.9	5.0	9.6	39	8	11
MAY 21...	0845	904	130	7.8	7.5	9.8	43	8	12
JUN 16...	1200	970	<50	6.6	9.0	9.5	11	0	3.3
JUL 16...	1215	474	<50	7.5	17.0	7.9	14	0	4.1
AUG 19...	1150	117	<50	7.5	16.5	7.9	17	0	5.1
SEP 23...	1030	51	48	7.4	9.0	9.2	18	1	5.3

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 24...	1.9	3.6	.3	1.0	26	8.9	1.1	.2	10
NOV 29...	2.3	4.5	.4	1.0	34	8.7	1.5	.2	12
DEC 04...	2.5	4.7	.3	.8	36	7.2	1.7	.2	12
JAN 24...	2.9	5.0	.3	1.0	39	6.3	1.9	.2	12
FEB 20...	3.1	5.0	.3	1.0	43	4.2	2.6	.2	11
MAR 24...	3.3	5.5	.4	1.0	44	12	2.2	.3	12
APR 24...	2.9	4.8	.3	1.3	31	8.1	2.1	.3	14
MAY 21...	3.1	4.6	.3	1.2	35	9.1	2.1	.3	15
JUN 16...	.7	1.9	.2	.6	13	1.2	.5	.1	7.4
JUL 16...	.8	1.8	.2	.6	16	.7	.3	.2	7.1
AUG 19...	1.1	1.8	.2	.7	18	6.3	1.4	.2	7.2
SEP 23...	1.2	2.1	.2	.7	17	.8	1.3	.2	8.6

E ESTIMATED.

06749500 CACHE LA POUDRE RIVER NEAR FORT COLLINS, CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)
OCT									
24...	50.0	.07	5.28	.01	.01	.02	.02	.91	.01
NOV									
29...	60.0	.08	3.56	.12	.01	.13	.02	--	.01
DEC									
04...	61.0	.08	5.93	.15	.01	.16	.02	.53	.00
JAN									
24...	64.0	.09	3.28	.11	.00	.11	.00	.37	.01
FEB									
20...	65.0	.09	5.44	.12	.00	.12	.03	.22	.01
MAR									
24...	75.0	.10	7.29	.04	.01	.05	.02	1.80	.03
APR									
24...	64.0	.09	E121	.17	.01	.18	.04	1.20	.02
MAY									
21...	69.0	.09	168	.17	.00	.17	.01	.67	.02
JUN									
16...	24.0	.03	62.9	.06	.00	.06	.00	.93	.01
JUL									
16...	25.0	.03	32.0	.00	.00	.00	.00	.70	.01
AUG									
19...	35.0	.05	11.1	.00	.00	.00	.00	.30	.02
SEP									
23...	31.0	.04	4.32	.00	.00	.00	.00	.42	.02

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT									
24...	--	0	200	1	0	0	8	70	50
NOV									
29...	--	0	200	0	0	0	0	80	40
DEC									
04...	--	0	400	0	0	2	0	130	60
JAN									
24...	0	0	100	1	0	0	8	100	30
FEB									
20...	--	2	200	3	10	0	2	120	20
MAR									
24...	--	1	0	0	20	2	2	70	10
APR									
24...	--	2	200	1	10	1	8	5300	50
MAY									
21...	--	1	0	0	0	4	6	1800	170
JUN									
16...	--	1	0	0	0	1	24	570	100
JUL									
16...	--	2	0	0	10	3	14	270	40
AUG									
19...	--	2	0	0	40	0	12	170	70
SEP									
23...	--	1	0	0	10	0	2	220	100

E ESTIMATED.

06749500 CACHE LA POUDRE RIVER NEAR FORT COLLINS, CO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 24...	2	4	4	.2	0	4	0	0	0
NOV 29...	4	10	0	.1	0	6	0	0	10
DEC 04...	0	0	3	.0	1	2	0	0	0
JAN 24...	1	10	7	.4	1	6	0	0	20
FEB 20...	1	0	2	.1	2	0	0	0	10
MAR 24...	3	10	1	.1	1	1	0	0	10
APR 24...	7	120	2	.0	0	9	1	0	50
MAY 21...	3	40	3	.1	0	10	0	0	30
JUN 16...	250	20	<3	.3	0	0	0	0	80
JUL 16...	27	0	<3	.0	0	6	0	0	30
AUG 19...	5	20	4	.1	0	2	0	0	50
SEP 23...	3	10	3	.0	2	2	0	0	10

DATE	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
APR 24...	.0	.00	.00	.00	.00	.00	.00	.00	.00
JUL 16...	.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
APR 24...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 16...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
APR 24...	.00	.00	.00	.00	0	.00	.00	.00	.00
JUL 16...	.00	.00	.00	.00	0	.00	.00	.00	.00

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO

LOCATION.--Lat 40°39'52", long 105°13'26", in NW¼ sec.15, T.8 N., R.70 W., Larimer County, Hydrologic Unit 10190007, on left bank at mouth of canyon, 0.5 mi (0.8 km) downstream from headgate of Poudre Valley Canal, 1.2 mi (1.9 km) upstream from Lewstone Creek, and 9.3 mi (15.0 km) northwest of courthouse in Fort Collins.

DRAINAGE AREA.--1,056 mi^2 (2,735 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June to August 1881, May to July 1883, October 1883 to current year. Monthly discharge only for some periods, published in WSP 1310. Records for Mar. 23 to Apr. 30 and July 4 to Aug. 20, 1883, published in WSP 9, have been found to be unreliable and should not be used. Prior to 1902, published as Cache la Poudre Creek or River at or near Fort Collins.

REVISED RECORDS.--WSP 1310: 1885-87, 1889, 1892, 1894-96, 1934. WSP 1730: 1960, drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Altitude of gage is 5,220 ft (1,591 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transbasin and transmountain diversions (see elsewhere in this report), diversions above station for irrigation of about 50,000 acres (202 km^2), most of which is below station (49,650 acre-ft or 61.2 hm^3 during current year, and diversions for municipal use (11,850 acre-ft or 14.6 hm^3 during current year).

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred May 20, 1904; maximum discharge determined, 21,000 ft^3/s (595 m^3/s) June 9, 1891 (from reports of State Engineer of Colorado), caused by failure of Chambers Lake Dam; minimum daily discharge, 1.6 ft^3/s (0.045 m^3/s) Nov. 20, 28, 1948, caused by diversion of Poudre Valley Canal 0.5 mi (0.8 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,860 ft^3/s (109 m^3/s) at 0630 June 12, gage height, 5.77 ft (1.759 m); minimum daily, 15 ft^3/s (0.42 m^3/s) Nov. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	19	28	85	30	35	372	2390	2950	1460	266	186
2	68	15	30	84	35	40	570	3080	2780	1490	244	145
3	64	30	39	70	35	44	236	2450	2650	1480	248	118
4	61	45	41	40	37	370	40	2080	2780	1200	266	116
5	61	44	41	40	34	540	50	2060	2810	1100	266	120
6	73	35	38	43	35	370	53	2000	3010	992	252	116
7	78	37	38	40	35	50	58	1980	2940	880	257	107
8	76	40	38	38	30	45	52	1920	2720	784	266	104
9	82	38	40	38	30	47	61	1370	2920	776	275	128
10	86	27	70	41	35	50	72	889	2940	776	257	138
11	84	24	130	40	35	48	74	1390	3050	744	252	121
12	80	28	100	45	35	440	65	2570	3310	712	239	126
13	71	30	20	100	40	640	64	2600	3130	720	226	127
14	64	25	21	200	40	210	442	2430	2820	736	239	123
15	66	28	23	300	170	50	747	2390	2650	648	315	104
16	50	28	19	130	440	47	391	3140	2330	591	374	86
17	30	32	20	50	180	43	90	3030	2070	460	310	81
18	32	40	25	47	35	45	96	3070	2050	374	226	79
19	32	43	55	44	38	333	500	2790	2060	398	157	72
20	32	37	80	41	38	498	573	2620	2110	422	144	78
21	38	28	40	43	40	242	258	2490	2160	404	136	128
22	42	25	35	43	38	51	684	2650	1980	410	139	113
23	39	26	40	45	230	48	956	3050	1860	434	259	94
24	38	28	38	48	300	42	1710	3410	1840	440	272	82
25	37	30	38	290	40	39	1610	3520	1860	466	340	100
26	34	28	38	520	42	41	1510	3280	1800	404	481	83
27	33	27	37	200	44	34	1390	3050	1720	352	486	73
28	30	27	37	30	43	37	1260	3080	1590	346	499	67
29	40	24	37	25	42	44	1170	3190	1460	310	313	61
30	44	26	34	20	---	40	1360	3060	1410	290	233	57
31	37	---	65	25	---	44	---	2990	---	280	255	---
TOTAL	1674	914	1335	2805	2206	4607	16514	80019	71760	20879	8492	3133
MEAN	54.0	30.5	43.1	90.5	76.1	149	550	2581	2392	674	274	104
MAX	86	45	130	520	440	640	1710	3520	3310	1490	499	186
MIN	30	15	19	20	30	34	40	889	1410	280	136	57
AC-FT	3320	1810	2650	5560	4380	9140	32760	158700	142300	41410	16840	6210

CAL YR 1979 TOTAL 147963 MEAN 405 MAX 2980 MIN 12 AC-FT 293500
WTR YR 1980 TOTAL 214338 MEAN 586 MAX 3520 MIN 15 AC-FT 425100

NOTE.--NO GAGE-HEIGHT RECORD DEC. 3 TO MAR. 17.

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1962 to October 1965, October 1971 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	OXYGEN, DIS-SOLVED (MG/L)	DATE	TIME	OXYGEN, DIS-SOLVED (MG/L)
NOV			NOV		
14...	1445	10.7	15...	0400	9.8
14...	1500	10.2	15...	0500	9.8
14...	1600	10.1	15...	0600	9.8
14...	1700	10.1	15...	0700	9.8
14...	1800	10.0	15...	0800	9.9
14...	1900	9.9	15...	0900	10.0
14...	2000	9.9	15...	1000	10.1
14...	2100	9.8	15...	1100	10.2
14...	2200	9.7	15...	1200	10.3
14...	2300	9.7	15...	1300	10.3
14...	2400	9.7	15...	1400	10.2
15...	0100	9.7	15...	1500	10.1
15...	0200	9.7	15...	1520	10.1
15...	0300	9.7			

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT											
25...	0810	36	80	7.4	5.5	7.8	.2	29	--	8.5	2.0
NOV											
09...	0850	46	110	--	1.0	10.2	.5	31	--	8.8	2.2
DEC											
04...	0930	92	98	--	.0	11.8	--	34	0	9.4	2.5
JAN											
23...	1130	E80	125	6.9	.5	11.6	--	43	0	12	3.1
FEB											
20...	1345	46	122	--	2.0	11.2	--	44	0	12	3.3
MAR											
19...	1245	605	230	8.3	5.0	10.2	--	89	11	26	5.9
APR											
24...	1200	1740	145	8.1	7.5	9.8	--	51	7	15	3.3
MAY											
21...	0740	2380	140	8.0	9.0	9.4	--	51	10	15	3.4
JUN											
16...	1315	2270	50	7.1	11.0	9.5	--	16	--	4.8	1.0
JUL											
15...	1440	626	75	7.2	19.0	7.4	--	25	0	7.2	1.6
AUG											
19...	1400	136	120	7.7	20.0	6.4	--	42	1	12	2.9
SEP											
23...	0930	90	200	7.8	10.5	9.1	--	78	3	21	6.3

E ESTIMATED.

06752000 CACHE LA POUDRE RIVER AT MOUTH OF CANYON, NEAR FORT COLLINS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
OCT 25...	3.7	.3	--	--	10	--	--	--	51.0	--
NOV 09...	4.0	.3	--	--	9.1	--	--	--	53.0	--
DEC 04...	4.4	.3	.9	35	8.6	1.7	.2	11	--	61.0
JAN 23...	4.8	.3	1.0	44	9.8	2.0	.3	12	--	72.0
FEB 20...	5.4	.4	1.0	45	8.9	2.5	.2	11	--	72.0
MAR 19...	7.8	.4	1.3	78	12	4.4	1.0	14	--	122
APR 24...	5.4	.3	1.7	44	8.6	2.3	.7	14	--	79.0
MAY 21...	4.9	.3	1.3	41	11	2.1	.6	15	--	80.0
JUN 16...	2.0	.2	.7	--	16	2.9	--	8.1	--	--
JUL 15...	2.6	.2	.7	25	5.5	3.5	.3	8.0	--	44.0
AUG 19...	3.7	.2	1.0	41	7.0	3.3	.3	8.2	--	63.0
SEP 23...	7.5	.4	1.3	75	13	5.2	.5	8.9	--	109

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 25...	.07	4.96	.05	.02	.16	.18	.01	--	--	--
NOV 09...	.07	6.58	.13	.09	.28	.37	.01	--	--	--
DEC 04...	.08	15.2	.25	--	--	--	--	.00	30	3
JAN 23...	.10	E15.6	.18	--	--	--	--	.01	20	3
FEB 20...	.10	8.94	.22	--	--	--	--	.01	20	4
MAR 19...	.17	199	.50	--	--	--	--	.03	30	20
APR 24...	.11	371	.34	--	--	--	--	.04	80	3
MAY 21...	.11	514	.36	--	--	--	--	.02	40	<3
JUN 16...	--	--	.08	--	--	--	--	.01	90	3
JUL 15...	.06	74.4	--	--	--	--	--	.01	50	4
AUG 19...	.09	23.1	.03	--	--	--	--	.03	50	7
SEP 23...	.15	26.5	.00	--	--	--	--	.02	70	6

E ESTIMATED.

06752258 CACHE LA POUDRE RIVER AT SHIELDS STREET AT FORT COLLINS, CO

WATER-QUALITY RECORDS

LOCATION.--Lat 40°36'11", long 105°05'43", in NE¼SE¼ sec.3, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, at Shields Street bridge, 0.8 mi (1.3 km) downstream from Larimer-Weld Canal and 1.0 mi (1.6 km) northwest of Fort Collins.

PERIOD OF RECORD.--October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT									
25...	1105	18	430	7.7	11.0	9.8	200	56	57
NOV									
29...	1315	56	370	6.8	.5	12.4	170	53	51
DEC									
04...	1450	10	365	--	4.0	11.6	170	35	48
JAN									
24...	1430	29	430	7.9	4.5	11.2	180	62	53
FEB									
21...	0930	39	415	8.1	2.5	11.4	170	45	48
MAR									
19...	1410	E550	315	9.0	9.0	10.6	130	49	39
APR									
23...	1520	1370	170	8.0	8.5	9.2	59	6	17
MAY									
21...	1105	2440	160	8.1	10.5	9.2	55	9	16
JUN									
16...	1430	765	58	7.1	14.5	8.1	22	0	6.4
JUL									
17...	0950	28	160	7.3	17.0	5.5	59	3	17
AUG									
20...	0945	52	145	7.8	13.0	9.2	57	10	17
SEP									
23...	1300	57	265	8.2	14.0	10.0	110	28	33

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT									
25...	13	11	.3	2.2	140	79	3.8	.4	8.0
NOV									
29...	11	9.4	.3	1.7	120	69	3.3	.3	9.6
DEC									
04...	11	10	.3	1.3	130	51	3.9	.4	9.0
JAN									
24...	12	10	.3	1.6	120	70	4.4	.4	11
FEB									
21...	11	9.7	.3	2.0	120	64	4.4	.4	11
MAR									
19...	8.7	8.4	.3	1.3	84	52	4.1	.4	10
APR									
23...	4.0	6.1	.3	1.4	53	11	2.9	.7	14
MAY									
21...	3.7	5.3	.3	1.4	46	13	2.3	.6	15
JUN									
16...	1.5	2.2	.2	.8	22	2.6	.9	.1	8.3
JUL									
17...	4.1	6.0	.3	1.5	56	16	2.6	.4	7.6
AUG									
20...	3.6	4.5	.3	1.1	47	21	2.5	.2	6.3
SEP									
23...	7.1	6.5	.3	1.5	84	34	3.4	.4	6.9

E ESTIMATED.

06752258 CACHE LA POUDRE RIVER AT SHIELDS STREET AT FORT COLLINS, CO

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 25...	261	.36	12.7	.45	.02	.02	30	20
NOV 29...	230	.31	34.8	.54	.02	.01	20	20
DEC 04...	216	.29	5.83	.67	.03	.00	30	10
JAN 24...	238	.32	18.6	.77	.04	.00	10	20
FEB 21...	226	.31	23.8	.81	.09	.01	10	20
MAR 19...	177	.24	--	.49	.00	.03	20	6
APR 23...	90.0	.12	333	.28	.08	.03	50	5
MAY 21...	87.0	.12	573	.41	.01	.02	40	4
JUN 16...	37.0	.05	76.4	.10	.00	.01	70	5
JUL 17...	90.0	.12	6.83	.33	.23	.02	70	20
AUG 20...	86.0	.12	12.1	.25	.00	.02	10	6
SEP 23...	145	.20	22.4	.31	.00	.01	50	10

DATE	TIME	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)
JAN 24...	1430	.0	.00	.00	.00	.00	.00	.00	.00	.00
JUL 17...	0950	.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)
JAN 24...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	MIREX, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 24...	.00	.00	.00	.00	0	.00	.00	.00	.00
JUL 17...	.00	.00	.00	.00	0	.00	.01	.00	.00

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO

LOCATION.--Lat 40°35'17", long 105°04'08", in NE¼SW¼ sec.12, T.7 N., R.69 W., Larimer County, Hydrologic Unit 10190007, on left bank 150 ft (46 m) downstream from Lincoln Ave. Bridge, and 2,200 ft (670 m) east of intersection of College Ave. (U.S. Highway 287) and Mountain Ave. in Fort Collins.

DRAINAGE AREA.--1,127 mi² (2,919 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,940 ft (1,506 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions above station for irrigation, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,700 ft³/s (161 m³/s) Aug. 1, 1976, gage height, 8.84 ft (2.694 m), from floodmarks, from rating curve extended above 1,200 ft³/s (34 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 1.3 ft³/s (0.037 m³/s) Oct. 9-11, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,960 ft³/s (112 m³/s) at 0115 May 2, gage height, 7.71 ft (2.350 m); maximum gage height, 7.80 ft (2.377 m) about May 25; minimum daily discharge, 3.2 ft³/s (0.091 m³/s) Aug. 28, Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	55	23	26	27	51	309	2420	2800	418	51	6.8
2	18	28	20	50	24	46	622	3450	2500	458	32	12
3	11	22	17	36	28	71	374	2750	2200	536	26	5.8
4	14	40	15	17	33	64	66	2230	1900	356	18	10
5	14	68	13	6.8	35	224	70	2120	1700	277	28	23
6	14	57	11	3.8	30	469	82	2050	1550	121	29	21
7	10	50	9.9	4.3	31	90	113	2030	1400	73	26	8.5
8	11	54	9.4	4.0	30	48	106	1940	1300	56	34	4.6
9	12	55	8.7	3.9	29	44	108	1600	1550	62	28	7.4
10	8.9	48	8.4	4.1	28	44	124	918	2000	91	28	14
11	6.8	41	54	4.2	26	44	134	999	2060	89	10	8.5
12	3.8	38	102	18	25	251	121	2600	2200	79	11	7.0
13	5.4	39	40	86	25	536	112	2720	2000	73	11	6.7
14	7.2	13	10	271	35	343	399	2490	1550	71	14	7.4
15	8.1	12	6.8	351	35	69	789	2400	1200	40	43	14
16	8.6	19	5.4	259	508	68	551	3290	740	44	45	7.6
17	18	38	5.4	47	346	57	143	3270	464	31	24	9.2
18	12	33	6.7	37	47	50	142	3340	325	24	15	13
19	11	25	6.2	32	43	171	448	3010	291	23	14	16
20	10	50	51	29	46	540	736	2740	421	23	15	14
21	11	39	56	28	45	331	224	2530	515	22	13	7.2
22	47	33	17	30	40	82	840	2590	432	18	24	13
23	19	36	8.6	33	174	64	880	2960	268	23	16	14
24	17	51	5.4	35	436	51	1840	3420	202	22	10	6.0
25	18	58	4.8	166	66	46	1720	3700	199	11	15	3.2
26	17	53	5.6	442	43	54	1560	3600	202	22	15	15
27	16	53	8.4	372	43	54	1390	3400	413	26	5.3	12
28	17	44	10	108	52	57	1180	3500	727	17	3.2	11
29	28	31	8.1	79	60	64	1020	3600	413	12	17	12
30	21	42	6.6	36	---	60	1220	3400	437	21	11	12
31	30	---	4.5	31	---	66	---	3250	---	49	8.1	---
TOTAL	459.8	1225	557.9	2650.1	2390	4209	17423	84317	33959	3188	639.6	321.9
MEAN	14.8	40.8	18.0	85.5	82.4	136	581	2720	1132	103	20.6	10.7
MAX	47	68	102	442	508	540	1840	3700	2800	536	51	23
MIN	3.8	12	4.5	3.8	24	44	66	918	199	11	3.2	3.2
AC-FT	912	2430	1110	5260	4740	8350	34560	167200	67360	6320	1270	638

CAL YR 1979 TOTAL 71558.4 MEAN 196 MAX 2620 MIN 2.3 AC-FT 141900
WTR YR 1980 TOTAL 151340.3 MEAN 413 MAX 3700 MIN 3.2 AC-FT 300200

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT 25...	1220	19	460	7.9	10.5	9.8	210	64	61
NOV 29...	1100	30	400	8.0	.0	13.0	190	56	53
DEC 05...	1107	9.9	550	--	3.5	12.0	240	66	65
JAN 24...	0950	32	490	7.8	.5	13.5	210	62	60
FEB 20...	1530	48	460	--	5.0	10.1	170	44	50
MAR 25...	0900	41	435	8.3	4.5	11.0	190	68	54
APR 23...	1325	1270	160	8.0	9.0	9.3	56	13	16
MAY 21...	1400	2490	165	8.0	12.5	8.5	56	12	16
JUN 16...	1625	663	68	7.4	13.5	8.5	25	5	7.2
JUL 17...	1200	25	275	7.9	19.5	7.0	100	31	28
AUG 20...	1230	13	240	8.2	16.5	10.6	90	16	25
SEP 23...	1430	14	330	8.3	16.5	11.4	130	24	38

DATE	AGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
OCT 25...	15	13	.4	2.7	150	86	5.8	.4	7.8
NOV 29...	13	12	.4	2.1	130	74	5.2	.4	9.3
DEC 05...	18	25	.7	2.8	170	95	17	.4	7.3
JAN 24...	15	14	.4	2.0	150	87	7.3	.4	11
FEB 20...	12	16	.5	2.8	130	75	11	.4	11
MAR 25...	13	12	.4	2.0	120	80	6.6	.4	9.1
APR 23...	4.0	5.6	.3	1.5	43	16	2.1	.3	13
MAY 21...	3.8	5.2	.3	1.4	44	13	2.5	.5	15
JUN 16...	1.6	2.6	.2	.8	20	6.2	1.1	.1	8.3
JUL 17...	7.8	9.6	.4	2.2	71	44	6.0	.4	8.1
AUG 20...	6.6	9.0	.4	2.0	74	28	5.9	.3	6.5
SEP 23...	9.6	11	.4	2.0	110	45	6.8	.4	6.7

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)
OCT 25...	284	.39	14.6	.49	.02	.51	.01	.85	.00
NOV 29...	250	.34	20.2	.61	.00	.62	.02	--	.01
DEC 05...	337	.46	9.01	.96	.02	.98	.03	.58	.01
JAN 24...	291	.40	25.1	.90	.00	.91	.04	.35	.02
FEB 20...	261	.36	33.8	.92	.02	.94	.22	.80	.05
MAR 25...	253	.34	28.3	.71	.02	.73	.04	1.20	.01
APR 23...	86.0	.12	295	.31	.01	.32	.08	1.60	.04
MAY 21...	86.0	.12	578	.39	.01	.40	.04	.78	.02
JUN 16...	41.0	.06	73.4	.12	.01	.13	.00	.43	.01
JUL 17...	151	.21	10.5	.52	.00	.52	.19	1.20	.01
AUG 20...	130	.18	4.56	.46	.01	.47	.00	1.30	.02
SEP 23...	188	.26	7.11	.49	.01	.50	.00	1.00	.04

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT 25...	160	--	--	0	2	--	0	--	90
NOV 29...	300	--	--	1	6	--	0	--	40
DEC 05...	160	--	--	1	15	--	0	--	50
JAN 24...	100	1	200	0	0	1	13	160	30
FEB 20...	570	--	--	3	2	--	4	--	20
MAR 25...	110	--	--	0	3	--	3	--	20
APR 23...	--	3	300	1	10	4	12	9400	70
MAY 21...	850	--	--	2	4	--	8	--	70
JUN 16...	460	--	--	1	7	--	26	--	50
JUL 17...	150	1	0	2	0	3	18	220	70
AUG 20...	250	--	--	1	2	--	12	--	50
SEP 23...	220	--	--	0	8	--	3	--	20

06752260 CACHE LA POUDRE RIVER AT FORT COLLINS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT									
25...	0	--	20	--	--	--	--	0	0
NOV									
29...	3	--	30	--	--	--	--	0	10
DEC									
05...	3	--	50	--	--	--	--	0	30
JAN									
24...	3	40	20	.0	0	3	1	0	70
FEB									
20...	10	--	30	--	--	--	--	0	30
MAR									
25...	5	--	20	--	--	--	--	0	20
APR									
23...	13	220	5	.1	0	12	1	0	70
MAY									
21...	9	--	4	--	--	--	--	0	40
JUN									
16...	120	--	6	--	--	--	--	0	30
JUL									
17...	9	20	30	.2	0	6	0	0	50
AUG									
20...	6	--	20	--	--	--	--	0	10
SEP									
23...	6	--	20	--	--	--	--	0	40

DATE	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN									
24...	.0	.00	.00	.00	.00	.00	.00	.00	.00
APR									
23...	.0	.00	.00	.00	.00	.00	.00	.00	.00
JUL									
17...	.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
JAN									
24...	.00	.00	.00	.00	.00	.00	.00	.00	.00
APR									
23...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL									
17...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN									
24...	.00	.00	.00	.00	0	.00	.01	.00	.00
APR									
23...	.00	.00	.00	.00	0	.00	.01	.00	.00
JUL									
17...	.00	.00	.00	.00	0	.00	.02	.00	.00

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO

LOCATION.--Lat 40°34'01", long 105°01'36", in NW¼NE¼ sec.20, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, 1.4 mi (2.3 km) west of Interstate 25 on Prospect Street in Fort Collins.

PERIOD OF RECORD.--January 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)	DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)
NOV			NOV		
14...	1345	13.8	15...	0400	10.6
14...	1400	14.0	15...	0500	10.6
14...	1500	13.8	15...	0600	10.7
14...	1600	13.2	15...	0700	10.7
14...	1700	12.2	15...	0800	10.9
14...	1800	11.4	15...	0900	11.6
14...	1900	11.0	15...	1000	12.4
14...	2000	10.8	15...	1100	13.4
14...	2100	10.7	15...	1117	13.6
14...	2200	10.7	15...	1200	13.8
14...	2300	10.7	15...	1300	14.0
14...	2400	10.7	15...	1400	14.0
15...	0100	10.6	15...	1430	13.7
15...	0200	10.6			
15...	0300	10.6			

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT									
24...	1130	34	605	7.9	10.5	11.8	230	71	63
NOV									
15...	1117	34	690	--	6.0	13.6	260	100	72
DEC									
05...	1348	33	800	--	5.5	13.5	270	90	72
JAN									
23...	1350	70	655	7.9	4.0	11.6	240	76	65
FEB									
21...	0830	58	655	--	2.5	10.8	230	84	64
MAR									
25...	1035	74	590	8.3	7.0	11.4	230	100	64
APR									
24...	1715	2250	170	8.0	9.0	9.1	61	13	18
MAY									
21...	1630	2750	170	8.1	14.0	8.5	62	15	18
JUN									
17...	1315	641	110	7.6	15.5	8.4	36	11	10
JUL									
17...	1415	61	590	8.5	24.0	12.4	220	100	54
AUG									
21...	0925	28	725	7.7	15.5	9.2	240	76	60
SEP									
24...	0830	13	695	7.8	13.0	6.6	260	73	69

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
OCT 24...	18	33	.9	4.3	160	110	21	.5	8.8
NOV 15...	20	45	1.2	4.8	160	150	38	.6	8.2
DEC 05...	22	64	1.7	4.8	180	140	63	.6	9.3
JAN 23...	18	34	1.0	3.6	160	120	28	.5	12
FEB 21...	18	32	.9	3.3	150	130	24	.5	11
MAR 25...	17	27	.8	3.0	130	120	19	.5	9.8
APR 24...	4.0	6.4	.4	1.9	48	15	3.8	.6	14
MAY 21...	4.2	6.0	.3	1.5	47	16	2.9	.6	15
JUN 17...	2.6	4.5	.3	.9	25	12	2.3	.1	9.3
JUL 17...	21	33	1.0	3.2	120	140	18	.6	8.2
AUG 21...	21	56	1.6	4.5	160	110	49	.6	7.8
SEP 24...	22	41	1.1	3.3	190	98	41	.7	9.4

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)
OCT 24...	363	.49	33.3	1.70	.21	1.9	.45	1.70	.62
NOV 15...	435	.59	39.9	.00	.00	.00	.03	1.70	.12
DEC 05...	494	.67	44.3	2.10	.19	2.3	1.10	1.90	.87
JAN 23...	386	.53	73.0	1.90	.07	2.0	1.20	1.10	.68
FEB 21...	378	.51	60.1	1.10	.09	1.2	1.10	1.60	.30
MAR 25...	343	.47	69.0	.90	.10	1.0	1.20	1.40	.39
APR 24...	94.0	.13	571	.39	.02	.41	.02	1.40	.06
MAY 21...	94.0	.13	698	.40	.01	.41	.06	.83	.03
JUN 17...	58.0	.08	100	.18	.01	.19	.03	.92	.03
JUL 17...	355	.48	58.7	1.10	.02	1.1	.01	1.30	.14
AUG 21...	415	.56	32.4	2.10	.10	2.2	.02	.87	.35
SEP 24...	414	.56	14.8	3.20	.24	3.4	.21	1.10	.37

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT 24...	100	--	--	0	3	--	0	--	40
NOV 15...	130	--	--	1	4	--	0	--	40
DEC 05...	300	--	--	0	48	--	5	--	50
JAN 23...	170	1	200	0	0	1	9	170	20
FEB 21...	220	--	--	2	4	--	4	--	20
MAR 25...	80	--	--	0	2	--	3	--	30
APR 24...	--	3	200	1	0	0	9	6000	60
MAY 21...	420	--	--	3	1	--	7	--	70
JUN 17...	330	--	--	1	5	--	10	--	90
JUL 17...	150	2	0	3	5	3	10	310	30
AUG 21...	130	--	--	1	4	--	31	--	30
SEP 24...	230	--	--	0	10	--	3	--	30

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 24...	2	--	20	--	--	--	--	0	0
NOV 15...	4	--	30	--	--	--	--	0	0
DEC 05...	9	--	40	--	--	--	--	0	40
JAN 23...	4	60	30	.0	1	6	1	0	300
FEB 21...	4	--	40	--	--	--	--	0	20
MAR 25...	2	--	30	--	--	--	--	0	20
APR 24...	11	150	4	.0	0	11	1	0	60
MAY 21...	6	--	6	--	--	--	--	0	30
JUN 17...	73	--	9	--	--	--	--	0	20
JUL 17...	8	20	20	.1	1	5	1	0	40
AUG 21...	53	--	30	--	--	--	--	0	0
SEP 24...	5	--	40	--	--	--	--	0	20

06752270 CACHE LA POUDRE RIVER BELOW FORT COLLINS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)
JAN 23...	.0	.00	.00	.00	.00	.00	.00	.02	.00
JUL 17...	.1	.00	.00	.00	.00	.00	.00	.01	.00

DATE	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
JAN 23...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 23...	.00	.00	.00	.00	0	.00	.01	.00	.00
JUL 17...	.00	.00	.00	.00	0	.00	.08	.00	.00

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO

LOCATION.--Lat 40°32'56", long 105°00'28", in NW¼NE¼ sec.28, T.7 N., R.68 W., Larimer County, Hydrologic Unit 10190007, on left bank 2,100 ft (640 m) upstream from Box Elder Creek, 2.0 mi (3.2 km) upstream from Interstate Highway 25 bridge and 3.8 mi (6.1 km) southeast of intersection of College Avenue and Prospect Street in Fort Collins.

DRAINAGE AREA.--1,245 mi^2 (3,225 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 4,860 ft (1,481 m), from topographic map.

REMARKS.--Records good except those for period Oct. 1 to June 25, which are poor. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions above station for irrigation, and return flow from irrigated areas.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,410 ft^3/s (125 m^3/s) at 0900 May 25, gage height, 6.40 ft (1.951 m); minimum daily, 3.0 ft^3/s (0.085 m^3/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	70	40	5.8	7.0	44	298	2200	2970	239	9.1	6.2
2	3.4	50	35	8.4	6.4	39	648	2870	2420	296	6.8	5.9
3	3.2	30	30	7.6	6.4	48	468	2520	1990	372	6.1	6.2
4	3.0	50	39	8.0	6.7	74	89	2230	1820	302	5.9	6.6
5	5.3	100	50	5.8	7.0	246	69	2130	1710	236	6.6	6.4
6	9.4	93	46	8.4	6.4	496	77	2130	1700	91	7.2	6.2
7	9.4	85	46	6.0	6.4	119	96	2130	1540	30	7.2	6.2
8	13	85	42	6.0	7.0	67	93	2060	1350	25	6.4	6.6
9	22	83	45	6.0	8.0	64	108	1730	1550	17	6.2	6.9
10	17	78	47	6.0	8.0	67	136	1110	2080	37	6.1	6.4
11	12	71	69	6.0	6.4	67	148	1300	1910	42	5.9	6.8
12	8.0	67	116	10	7.0	227	134	2970	2180	38	5.7	6.4
13	10	60	74	50	6.4	535	123	2750	2070	33	6.1	6.4
14	11	52	44	250	6.1	382	351	1710	1650	33	6.9	6.2
15	12	46	43	320	5.8	88	768	1490	1300	11	11	14
16	13	51	37	200	318	80	636	2170	867	9.4	13	18
17	30	71	37	50	308	74	172	2870	372	9.4	6.1	14
18	20	50	38	10	17	67	167	3360	300	8.6	5.7	11
19	17	40	18	8.0	8.7	217	438	3260	246	8.4	5.4	12
20	15	56	8.0	6.9	9.4	540	860	2870	405	8.4	5.4	21
21	30	50	10	6.0	8.4	406	267	2630	496	8.4	5.9	12
22	78	44	11	6.0	8.0	118	867	2750	452	7.9	5.9	14
23	57	48	8.0	6.0	60	96	900	3190	242	6.9	6.1	12
24	50	53	6.1	6.0	414	85	2580	3840	178	6.8	5.7	12
25	52	60	6.1	91	93	83	1810	4190	139	6.6	5.9	11
26	51	57	6.1	383	29	96	1650	3920	162	6.6	6.9	14
27	45	55	6.4	361	48	91	1450	3680	271	6.8	7.4	16
28	47	47	6.4	149	51	103	1250	3650	718	6.2	6.2	16
29	58	40	6.7	12	48	101	1080	3840	372	5.9	5.4	17
30	60	45	6.7	13	---	96	1260	3710	350	6.4	5.4	16
31	64	---	6.1	8.4	---	101	---	3330	---	7.4	6.1	---
TOTAL	829.4	1787	983.6	2020.3	1521.5	4917	18993	84590	33810	1922.1	205.7	319.4
MEAN	26.8	59.6	31.7	65.2	52.5	159	633	2729	1127	62.0	6.64	10.6
MAX	78	100	116	383	414	540	2580	4190	2970	372	13	21
MIN	3.0	30	6.1	5.8	5.8	39	69	1110	139	5.9	5.4	5.9
AC-FT	1650	3540	1950	4010	3020	9750	37670	167800	67060	3810	408	634

WTR YR 1980 TOTAL 151899.0 MEAN 415 MAX 4190 MIN 3.0 AC-FT 301300

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to September 1980

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)	DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)
NOV			NOV		
14...	1310	10.9	15...	0400	6.7
14...	1400	11.0	15...	0500	6.7
14...	1500	11.0	15...	0600	6.8
14...	1600	10.4	15...	0700	6.9
14...	1700	9.7	15...	0800	7.2
14...	1800	8.9	15...	0900	8.0
14...	1900	8.3	15...	0930	9.6
14...	2000	8.0	15...	1000	9.1
14...	2100	7.6	15...	1100	10.0
14...	2200	7.4	15...	1200	10.5
14...	2300	7.1	15...	1300	10.8
14...	2400	7.0	15...	1400	10.8
15...	0100	6.9	15...	1405	10.8
15...	0200	6.8			
15...	0300	6.7			

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT									
24...	0910	47	720	7.8	10.5	7.7	260	89	69
NOV									
15...	0930	46	930	--	5.0	9.6	360	190	93
DEC									
05...	1610	49	950	--	5.5	10.6	360	180	95
JAN									
25...	0935	5.5	2500	7.7	1.5	10.2	1100	920	290
FEB									
20...	1000	7.2	2000	--	3.0	8.6	850	650	220
MAR									
25...	1310	82	745	8.2	10.5	8.8	300	150	79
APR									
23...	1000	448	400	8.1	10.0	8.4	150	80	41
MAY									
22...	1400	2800	230	7.8	14.5	8.2	80	32	22
JUN									
17...	1030	727	115	7.4	12.5	7.9	35	7	9.8
JUL									
17...	1700	7.7	2050	8.3	28.0	12.1	910	800	220
AUG									
21...	1335	6.2	2800	7.6	23.5	11.0	1300	1100	320
SEP									
24...	1020	14	1395	8.1	15.0	7.8	660	450	170

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 24...	21	63	1.2	5.7	170	150	25	.7	11
NOV 15...	31	53	1.2	5.5	170	240	32	.8	11
DEC 05...	30	64	1.5	5.2	180	220	49	.7	12
JAN 25...	100	130	1.7	5.8	220	1100	26	1.1	12
FEB 20...	74	89	1.3	5.1	200	770	30	.9	12
MAR 25...	24	36	.9	3.9	150	190	20	.6	10
APR 23...	12	18	.6	2.2	72	92	7.4	.4	13
MAY 22...	6.1	7.9	.4	1.5	48	35	3.0	.5	15
JUN 17...	2.5	5.4	.4	.9	28	13	2.8	.1	8.7
JUL 17...	87	98	1.4	5.8	110	940	27	1.2	8.9
AUG 21...	120	130	1.6	7.3	220	1200	31	1.2	8.7
SEP 24...	57	74	1.3	4.4	210	530	27	.9	9.1

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT 24...	436	.59	55.6	1.60	.26	1.9	2.80	3.10	2.00
NOV 15...	569	.77	70.7	.00	.00	.00	.06	1.90	.76
DEC 05...	603	.82	79.8	4.10	.20	4.3	1.40	3.10	.19
JAN 25...	1820	2.48	27.0	4.20	.03	4.2	.33	.73	.04
FEB 20...	1330	1.81	25.9	2.90	.07	3.0	.65	1.90	.04
MAR 25...	467	.64	104	2.80	.16	3.0	1.40	2.00	1.30
APR 23...	233	.32	282	.86	.06	.92	.33	1.30	.25
MAY 22...	122	.17	922	.48	.01	.49	.07	.83	.03
JUN 17...	61.0	.08	120	.22	.01	.23	.00	.58	.03
JUL 17...	1470	2.00	30.9	2.60	.04	2.6	.21	1.80	.01
AUG 21...	1970	2.68	33.4	4.40	.06	4.5	.00	1.30	.01
SEP 24...	1010	1.37	39.8	3.10	.09	3.2	.00	.94	.16

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
OCT									
24...	60	--	--	0	6	--	1	--	40
NOV									
15...	140	--	--	1	5	--	4	--	50
DEC									
05...	210	--	--	0	--	--	1	--	50
JAN									
25...	630	1	200	1	10	4	8	480	20
FEB									
20...	2000	--	--	3	3	--	6	--	10
MAR									
25...	240	--	--	0	2	--	4	--	20
APR									
23...	--	2	200	1	0	0	7	3200	80
MAY									
22...	540	--	--	0	2	--	6	--	100
JUN									
17...	700	--	--	0	4	--	4	--	100
JUL									
17...	200	2	100	2	0	3	10	430	60
AUG									
21...	320	--	--	1	3	--	12	--	40
SEP									
24...	200	--	--	0	7	--	4	--	60

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT									
24...	2	--	20	--	--	--	--	0	0
NOV									
15...	4	--	40	--	--	--	--	0	0
DEC									
05...	25	--	50	--	--	--	--	0	20
JAN									
25...	--	220	210	.0	2	9	16	0	60
FEB									
20...	10	--	150	--	--	--	--	0	30
MAR									
25...	3	--	30	--	--	--	--	0	20
APR									
23...	9	90	10	.0	1	6	1	0	50
MAY									
22...	3	--	6	--	--	--	--	0	20
JUN									
17...	1	--	8	--	--	--	--	0	20
JUL									
17...	7	160	70	.0	9	5	12	0	60
AUG									
21...	8	--	70	--	--	--	--	0	10
SEP									
24...	5	--	40	--	--	--	--	0	30

06752280 CACHE LA POUDRE RIVER ABOVE BOX ELDER CREEK NEAR TIMNATH, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PCN, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
JAN 25...	.0	.00	.00	.00	.00	.00	.00	.00	.00
APR 23...	.0	.00	.00	.00	.00	.00	.00	.00	.00
JUL 17...	.0	.00	.00	.00	.00	.00	.00	.00	.00

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
JAN 25...	.00	.00	.00	.00	.00	.00	.00	.00	.00
APR 23...	.00	.00	.00	.00	.00	.05	.00	.00	.00
JUL 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN 25...	.00	.00	.00	.00	0	.00	.00	.00	.00
APR 23...	.00	.00	.00	.00	0	.00	.02	.00	.00
JUL 17...	.00	.00	.00	.00	0	.00	.58	.00	.00

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO

LOCATION.--Lat 40°25'04", long 104°38'22", in NW¼ sec.11, T.5 N., R.65 W., Weld County, Hydrologic Unit 10190007, on right bank 25 ft (8 m) downstream from highway bridge, 2.9 mi (4.7 km) east of courthouse in Greeley, and 3.0 mi (4.8 km) upstream from mouth.

DRAINAGE AREA.--1,877 mi^2 (4,861 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to October 1903, August to November 1904, January 1914 to December 1919, June 1924 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1440: 1935, 1938(M), 1942-43. WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,610 ft (1,405 m), from topographic map. See WSP 1710 or 1730 for history of changes prior to Dec. 14, 1933.

REMARKS.--Records good. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, diversion for municipal supply, diversions above station for irrigation of about 250,000 acres (1,010 km^2), and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--61 years (water years 1915-19, 1925-80), 114 ft^3/s (3.228 m^3/s), 82,590 acre-ft/yr (102 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,220 ft^3/s (120 m^3/s) June 24, 26, 1917; minimum daily, 0.8 ft^3/s (0.023 m^3/s) Oct. 3, 1946.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,030 ft^3/s (114 m^3/s) at 1700 May 17, gage height, 8.14 ft (2.481 m); minimum daily, 22 ft^3/s (0.62 m^3/s) Aug. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	185	161	81	115	309	288	2020	3250	107	35	51
2	113	194	163	94	120	299	444	2850	2920	85	28	58
3	116	187	183	96	165	301	573	3520	2360	210	30	62
4	123	185	169	93	210	291	394	3160	1750	225	25	52
5	146	203	167	96	234	278	260	2720	1590	114	27	48
6	150	203	167	86	244	422	273	2630	1450	86	22	46
7	144	174	161	69	244	514	283	2580	1440	54	25	46
8	130	174	158	81	234	366	288	2560	1330	52	25	51
9	154	165	150	94	222	335	280	2500	1250	47	39	62
10	176	165	152	86	222	335	293	1770	1560	52	43	70
11	205	161	152	85	229	348	296	1410	1650	52	30	75
12	187	158	158	99	229	332	301	2030	1670	54	40	75
13	152	172	185	109	236	480	296	3150	1720	48	39	81
14	178	178	187	125	236	614	286	3280	1420	44	40	68
15	196	156	174	229	220	483	472	3220	1140	29	96	63
16	165	156	156	332	212	364	680	3380	884	35	79	59
17	146	174	148	304	374	332	520	3880	563	43	61	72
18	132	189	158	256	377	309	394	3760	280	50	42	91
19	130	189	150	224	263	286	374	3630	217	51	32	110
20	127	191	138	212	239	388	579	3360	159	53	35	189
21	152	169	130	200	234	508	591	2990	138	33	37	186
22	172	158	125	203	244	422	536	2800	232	44	33	105
23	183	174	120	227	241	293	704	2900	202	53	30	153
24	178	176	114	249	322	253	1200	3240	102	48	38	88
25	169	189	113	172	416	236	2030	3570	77	54	39	79
26	174	185	116	99	293	236	2130	3880	51	46	50	75
27	165	196	121	185	280	246	2040	3700	53	46	40	68
28	163	167	113	165	285	263	1930	3400	142	44	40	64
29	176	148	106	150	300	260	1650	3490	165	42	29	70
30	198	142	71	135	---	265	1560	3600	88	25	47	86
31	191	---	76	120	---	270	---	3430	---	36	48	---
TOTAL	4921	5263	4442	4755	7240	10638	21945	94410	29833	1962	1224	2403
MEAN	159	175	143	153	250	343	732	3045	994	63.3	39.5	80.1
MAX	205	203	187	332	416	614	2130	3880	3250	225	96	189
MIN	113	142	71	69	115	236	260	1410	51	25	22	46
AC-FT	9760	10440	8810	9430	14360	21100	43530	187300	59170	3890	2430	4770

CAL YR 1979 TOTAL 104649 MEAN 287 MAX 2800 MIN 29 AC-FT 207600
WTR YR 1980 TOTAL 189036 MEAN 516 MAX 3880 MIN 22 AC-FT 375000

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1951 to September 1952, August 1954 to August 1956, December 1963 to September 1966, October 1967 to September 1968, October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT 26...	0800	205	1650	7.6	10.5	7.2	660	400
NOV 08...	1215	220	1400	--	8.5	9.9	550	320
DEC 07...	0920	191	1770	--	3.5	9.4	750	490
JAN 17...	0810	391	980	7.9	2.0	9.8	390	200
FEB 14...	1130	268	1600	7.7	1.5	9.9	580	340
MAR 19...	0800	222	1730	8.0	6.0	9.4	680	440
APR 09...	1400	273	1670	8.3	12.0	9.2	620	400
MAY 22...	0800	2200	370	7.7	13.5	7.6	130	62
JUN 11...	1440	1240	460	7.7	18.0	4.3	150	86
JUL 08...	1020	146	1730	7.8	20.0	6.8	650	420
AUG 07...	0800	37	1800	7.5	19.0	--	680	370
SEP 24...	1300	83	1890	8.1	16.0	8.7	770	500

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
OCT 26...	140	75	110	1.9	8.5	260	590	36	.9
NOV 08...	120	61	88	1.6	7.4	230	480	33	.8
DEC 07...	160	84	120	1.9	7.6	260	630	45	.9
JAN 17...	90	39	57	1.3	4.9	190	280	22	.9
FEB 14...	120	69	110	2.0	6.4	240	550	44	.8
MAR 19...	150	75	100	1.7	5.8	240	620	31	.9
APR 09...	130	72	100	1.7	7.3	220	510	32	.7
MAY 22...	32	12	15	.6	2.2	67	79	5.6	.6
JUN 11...	33	16	24	.9	2.2	62	130	7.7	.5
JUL 08...	140	74	100	1.7	8.3	230	590	24	1.0
AUG 07...	150	75	120	2.0	11	310	600	42	.9
SEP 24...	150	95	130	2.0	6.0	270	720	46	1.0

06752500 CACHE LA POUDRE RIVER NEAR GREELEY, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT								
26...	9.8	1150	1.56	637	4.9	.97	50	110
NOV								
08...	9.7	959	1.30	570	4.6	.94	30	70
DEC								
07...	11	1240	1.69	639	6.1	.84	30	120
JAN								
17...	14	633	.86	668	2.5	.29	20	70
FEB								
14...	12	1070	1.46	774	4.0	1.10	20	80
MAR								
19...	12	1160	1.58	695	5.2	.58	10	90
APR								
09...	9.6	1010	1.37	744	4.0	.56	30	70
MAY								
22...	15	205	.28	1220	.77	.08	270	20
JUN								
11...	8.9	264	.36	884	.90	.13	20	20
JUL								
08...	12	1110	1.51	438	4.4	.42	<10	160
AUG								
07...	12	1220	1.66	123	4.5	.67	20	410
SEP								
24...	12	1340	1.82	300	4.5	.20	10	160

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO

LOCATION.--Lat 40°24'44", long 104°33'46", in NW¼SW¼ sec.9, T.5 N., R.64 W., Weld County, Hydrologic Unit 10190003, on downstream side of bridge on State Highway 37, 1.9 mi (3.1 km) north of railroad in Kersey, and 2.5 mi (4.0 km) downstream from Cache la Poudre River.

DRAINAGE AREA.--9,598 mi^2 (24,859 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1901 to December 1903, March 1905 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "at Kersey" 1901-3.

REVISED RECORDS.--WSP 1310: 1902, 1906, 1935(M). WSP 1730: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,575.77 ft (1,394.695 m) National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to July 3, 1935.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 888,000 acres (3,590 km^2), and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--71 years (water years 1902-03, 1906-74), 777 ft^3/s (22.00 m^3/s), 562,900 acre-ft/yr (694 hm^3/yr), prior to completion of Chatfield Dam; 6 years (water years 1975-80), 1,084 ft^3/s (30.70 m^3/s), 785,400 acre-ft/yr (968 hm^3/yr), subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,500 ft^3/s (892 m^3/s) May 8, 1973, gage height, 11.73 ft (3.575 m); minimum daily, 28 ft^3/s (0.79 m^3/s) Apr. 30, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,300 ft3/s (518 m^3/s) at 0300 May 2, gage height, 10.31 ft (3.142 m); minimum daily, 286 ft^3/s (8.10 m^3/s) Aug. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	560	962	851	860	1000	1620	1760	11100	10200	798	375	878
2	560	962	887	890	1070	1530	2160	16800	9850	962	310	905
3	622	1000	943	850	1140	1450	2510	15400	9030	1830	310	869
4	764	1010	1000	840	1140	1570	1940	14300	7940	1730	325	860
5	790	1070	1100	840	1130	1610	1690	13800	7350	1760	305	815
6	806	1130	1130	860	1110	1770	1760	13600	6900	1260	335	738
7	815	1080	1050	770	1060	1970	1740	13400	6920	878	330	690
8	698	1060	1000	750	1020	1690	1690	13300	6920	698	286	650
9	690	1040	952	750	972	1640	1560	13700	6810	629	300	698
10	824	1020	972	747	851	1650	1530	12800	7320	674	320	981
11	887	962	990	790	972	1730	1480	11900	7790	1020	310	1240
12	824	952	896	790	1120	1660	1520	12700	8030	1120	296	1060
13	764	990	878	896	1100	1900	1520	13200	8030	1300	300	943
14	772	1130	934	1090	1200	2020	1470	13200	7580	1260	296	860
15	790	1080	962	1180	1180	1650	1870	12600	6730	1110	713	815
16	738	990	934	1330	1250	1400	2190	14500	6070	896	1600	747
17	747	952	869	1310	1320	1320	1840	16800	5380	748	1110	674
18	714	972	905	1230	1400	1380	1500	15400	4600	1050	824	682
19	658	962	896	1150	1200	1280	1430	14000	3960	666	798	690
20	658	1040	869	1090	1370	1430	1830	12200	3940	615	772	772
21	706	851	860	1020	1360	1670	2070	12200	4070	554	706	887
22	1130	842	878	1040	1420	1440	1870	11700	3900	528	682	738
23	1120	1000	878	1070	1480	1250	2120	12100	3670	601	674	650
24	1040	1000	878	1100	1540	1180	3550	12300	3180	567	615	650
25	952	1040	851	1090	1520	1130	8000	12900	2720	574	515	698
26	914	1050	842	1040	1490	1140	7880	12800	2240	714	485	622
27	869	1020	896	980	1450	1160	6840	12200	1950	860	594	608
28	842	943	924	924	1600	1220	6450	11400	1700	806	806	587
29	860	851	924	1010	1700	1340	5760	11000	1320	666	666	587
30	972	806	890	1080	---	1530	5730	11000	981	608	629	580
31	1020	---	840	924	---	1710	---	10700	---	485	756	---
TOTAL	25106	29767	28679	30291	36165	47040	85260	405000	167081	27967	17343	23174
MEAN	810	992	925	977	1247	1517	2842	13060	5569	902	559	772
MAX	1130	1130	1130	1330	1700	2020	8000	16800	10200	1830	1600	1240
MIN	560	806	840	747	851	1130	1430	10700	981	485	286	580
AC-FT	49800	59040	56880	60080	71730	93300	169100	803300	331400	55470	34400	45970

CAL YR 1979 TOTAL 555728 MEAN 1523 MAX 14300 MIN 291 AC-FT 1102000
WTR YR 1980 TOTAL 922873 MEAN 2522 MAX 16800 MIN 286 AC-FT 1831000

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1949 to September 1953, August 1954 to August 1957, June 1962 to September 1970, October 1976 to September 1980 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: December 1950 to September 1953.
WATER TEMPERATURE: December 1950 to September 1953.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,850 micromhos Nov. 29, 30, 1952; minimum daily, 388 micromhos June 11, 1952.
WATER TEMPERATURES: Maximum, 22.0°C Aug. 1, 2, 6, 1951; minimum, freezing point on many days during winter months each year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 17...	1250	594	1520	7.9	14.5	8.6	520	280	120
NOV 08...	1115	869	1470	--	7.5	8.9	520	300	120
DEC 07...	0750	869	1520	--	2.5	9.8	520	310	120
JAN 17...	0920	1230	1230	7.8	5.0	10.2	430	230	99
FEB 14...	0815	1180	1430	7.7	1.5	9.9	450	250	100
MAR 19...	0845	1170	1670	7.9	6.5	7.8	560	350	120
APR 09...	0740	1810	1650	8.1	7.0	7.3	510	300	110
MAY 06...	1015	14100	495	7.9	12.5	7.4	170	90	40
JUN 11...	1340	11440	430	7.4	18.0	7.1	130	67	32
JUL 08...	1100	772	1400	7.9	22.0	6.6	510	320	110
AUG 06...	1340	335	1670	8.0	24.5	--	580	340	120
SEP 22...	1545	682	1590	8.0	17.5	8.8	570	340	120

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 17...	54	130	2.5	7.7	240	500	61	1.1	13
NOV 08...	54	120	2.3	7.7	220	480	60	1.1	12
DEC 07...	54	130	2.5	7.5	210	450	62	1.1	13
JAN 17...	45	100	2.1	6.5	200	370	50	1.1	13
FEB 14...	48	120	2.5	6.9	200	410	68	.9	12
MAR 19...	64	130	2.4	6.6	210	540	57	1.0	12
APR 09...	57	130	2.5	6.6	210	450	63	.9	11
MAY 06...	16	34	1.2	3.1	76	130	22	.7	13
JUN 11...	13	30	1.1	2.8	66	110	15	.3	9.7
JUL 08...	56	98	1.9	6.3	190	440	27	1.1	13
AUG 06...	67	130	2.4	7.5	240	570	48	1.1	12
SEP 22...	66	130	2.4	6.3	230	540	56	1.1	10

06754000 SOUTH PLATTE RIVER NEAR KERSEY, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	ALGAL GROWTH POTEN-TIAL, BOTTLE TEST (MG/L)
OCT								
17...	1040	1.41	1670	3.1	.85	10	40	45
NOV								
08...	1010	1.37	2370	5.0	.91	30	110	166
DEC								
07...	988	1.34	2320	5.3	.88	30	170	--
JAN								
17...	821	1.12	2730	3.7	.90	20	160	--
FEB								
14...	905	1.23	2880	4.3	1.10	30	170	--
MAR								
19...	1080	1.47	3410	5.6	.99	10	180	--
APR								
09...	977	1.33	4770	5.0	.99	20	120	176
MAY								
06...	310	.42	11800	1.2	.13	20	7	--
JUN								
11...	258	.35	7970	1.3	.20	20	10	--
JUL								
08...	882	1.20	1840	3.6	.34	<10	60	56
AUG								
06...	1120	1.52	1010	4.9	.25	<10	70	42
SEP								
22...	1090	1.48	2010	4.7	.32	<10	40	50

06756995 SOUTH PLATTE RIVER AT MASTERS, CO

LOCATION.--Lat 40°18'22", long 104°14'40", in SE¼ sec.18, T.4 N., R.61 W., Weld County, Hydrologic Unit 10190003, on right bank at bridge on Weld County Road 87, 1.0 mi (1.6 km) north of U.S. Highway 34 at Masters.

DRAINAGE AREA.--12.119 mi^2 (31.595 km^2).

PERIOD OF RECORD.--December 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,450 ft (1,356 m), from topographic map.

REMARKS.--Records fair. Natural flow of stream affected by transmountain, transbasin, and storage diversions, power developments, ground-water withdrawals and diversions for irrigation, and return flows from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft^3/s (428 m^3/s) May 2, 1980, gage height, 10.06 ft (3.066 m); minimum daily, 3.5 ft^3/s (0.099 m^3/s) Mar. 16, 18, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,100 ft^3/s (428 m^3/s) at 1500 May 2, gage height, 10.06 ft (3.066 m); minimum daily, 257 ft^3/s (7.28 m^3/s) Sept. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	407	635	530	772	877	1400	1050	5330	8180	560	459	669
2	388	635	560	779	1060	1300	1100	12600	7690	697	400	704
3	397	605	600	821	1260	1140	1200	14000	7280	1120	376	697
4	450	535	744	835	1280	1220	1250	12900	6560	1380	390	390
5	402	530	779	828	1220	1200	1250	12000	5960	1270	371	317
6	407	560	835	835	1240	1220	1300	11700	5610	851	366	292
7	470	581	793	842	1260	1500	1300	11600	5560	655	390	272
8	475	565	758	814	1260	1340	1300	11200	5710	494	376	257
9	485	545	723	800	1220	1220	1360	11800	5610	518	362	257
10	535	540	723	807	1220	1160	1340	11400	5840	642	390	292
11	581	510	709	856	1220	1160	1320	10400	6460	759	390	548
12	587	505	751	900	1280	1140	1300	10100	6540	943	339	616
13	560	520	807	900	1320	1140	1300	11000	6780	1140	321	560
14	560	560	842	960	1380	1280	1280	11200	6610	1240	348	506
15	581	587	814	1000	1380	1160	1380	10800	5460	1030	415	448
16	659	575	758	1100	1320	937	1740	11000	5250	826	1150	405
17	677	540	751	1100	1340	793	1760	13100	4730	655	960	371
18	605	535	758	1130	1480	786	1490	12400	4090	799	746	352
19	510	515	730	1140	1340	779	1380	12100	3150	676	662	352
20	510	435	744	1140	1360	765	1490	10800	2950	697	622	366
21	535	430	730	1080	1320	921	1800	10600	3070	655	596	437
22	587	495	751	1020	1340	849	1620	10300	2810	578	560	432
23	772	540	744	1070	1360	695	1860	10000	2870	610	506	348
24	695	575	765	1100	1360	635	2340	10100	2200	603	506	326
25	671	587	765	1120	1400	605	4360	10300	1830	572	554	317
26	635	593	744	1110	1400	581	6440	10500	1460	622	482	313
27	605	570	765	1070	1400	581	5730	10400	1160	767	488	309
28	593	485	821	1090	1450	629	5250	9970	1070	774	542	300
29	599	455	814	1100	1450	765	4690	9270	909	616	590	292
30	623	450	730	977	---	877	4360	8880	584	572	548	280
31	653	---	702	800	---	1040	---	8680	---	542	578	---
TOTAL	17214	16193	23040	29896	37797	30818	65340	336430	133983	23863	15783	12025
MEAN	555	540	743	964	1303	994	2178	10850	4466	770	509	401
MAX	772	635	842	1140	1480	1500	6440	14000	8180	1380	1150	704
MIN	388	430	530	772	877	581	1050	5330	584	494	321	257
AC-FT	34140	32120	45700	59300	74970	61130	129600	667300	265800	47330	31310	23850

CAL YR 1979 TOTAL 348513.2 MEAN 955 MAX 9400 MIN 7.2 AC-FT 691300
WTR YR 1980 TOTAL 742382.0 MEAN 2028 MAX 14000 MIN 257 AC-FT 1473000

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO

LOCATION.--Lat 40°19'19", long 103°55'17", in SW¼SW¼ sec.7, T.4 N., R.58 W., Morgan County, Hydrologic Unit 10190003, on left bank 400 ft (120 m) downstream from bridge on State Highway 144, 2.8 mi (4.5 km) southeast of Weldona, and 4.2 mi (6.8 km) upstream from Bijou Creek.

DRAINAGE AREA.--13,245 mi^2 (34,305 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1710: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,307.80 ft (1,313.017 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--22 years (water years 1953-74), 572 ft^3/s (16.20 m^3/s), 414,400 acre-ft/yr (511 hm^3/yr), prior to completion of Chatfield Dam. 5 years (water years 1976-80), 749 ft^3/s (21.21 m^3/s), 542,600 acre-ft/yr (669 hm^3/yr), subsequent to completion of Chatfield Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,800 ft^3/s (759 m^3/s) May 8, 1973, gage height, 11.68 ft (3.560 m), from rating curve extended above 16,000 ft^3/s (453 m^3/s); minimum daily, 39 ft^3/s (1.10 m^3/s) May 19, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,700 ft^3/s (445 m^3/s) at 0800 May 18, gage height, 9.63 ft (2.935 m); maximum gage height, 9.97 ft (3.039 m) at 0900 May 3; minimum daily discharge, 264 ft^3/s (7.48 m^3/s) Aug. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	480	695	512	881	1060	1310	1290	4270	7620	507	433	600
2	423	707	825	938	1110	1200	1370	6350	7210	475	377	653
3	382	713	1000	902	1160	1150	2100	14100	6850	528	338	665
4	372	647	867	895	1210	1180	2070	12900	6080	783	330	561
5	382	635	818	900	1260	1240	1780	11200	5340	811	325	423
6	372	653	860	900	1310	1220	1670	10600	4950	764	316	392
7	392	665	846	870	1200	1430	1680	10400	4650	550	320	368
8	423	647	804	850	1140	1480	1590	9950	4820	418	316	343
9	423	629	777	900	1120	1310	1550	9870	4800	382	302	334
10	438	635	758	930	1060	1280	1490	10300	4740	368	302	343
11	480	629	744	962	1060	1260	1490	9390	5290	387	294	438
12	491	605	751	978	1110	1250	1470	8290	5590	475	285	605
13	464	588	811	978	1190	1180	1510	8700	5670	545	264	623
14	448	605	902	970	1230	1320	1500	9910	5590	635	264	588
15	454	647	962	1080	1230	1360	1480	9870	5130	623	273	566
16	496	629	881	1200	1210	1160	1950	9350	4430	572	421	539
17	550	600	867	1320	1170	986	2120	10800	3980	454	744	518
18	561	588	846	1250	1340	916	1780	14700	3570	387	561	475
19	485	583	818	1200	1300	923	1540	13500	3060	443	433	464
20	454	572	797	1160	1240	874	1510	12300	2760	382	343	470
21	491	496	790	1140	1320	1010	1910	10900	2760	397	307	501
22	491	528	790	1110	1290	1020	1980	10500	2600	372	327	528
23	623	600	790	1150	1280	895	2210	9870	2520	368	294	459
24	653	641	804	1150	1270	790	2190	9790	2240	368	298	418
25	635	647	804	1150	1350	758	3510	9990	1840	353	338	412
26	629	635	797	1110	1400	732	5700	10400	1540	358	382	402
27	605	629	804	1000	1260	732	6050	10400	1160	418	392	397
28	605	550	839	1110	1270	764	5180	9870	994	507	448	387
29	600	512	853	1220	1320	860	4550	9040	881	501	459	372
30	611	501	839	1220	---	994	4160	8480	744	459	459	338
31	641	---	790	1010	---	1180	---	8150	---	438	550	---
TOTAL	15554	18411	25346	32434	35470	33764	70380	314140	119409	15028	11495	14182
MEAN	502	614	818	1046	1223	1089	2346	10130	3980	485	371	473
MAX	653	713	1000	1320	1400	1480	6050	14700	7620	811	744	665
MIN	372	496	512	850	1060	732	1290	4270	744	353	264	334
AC-FT	30850	36520	50270	64330	70350	66970	139600	623100	236800	29810	22800	28130

CAL YR 1979 TOTAL 370240 MEAN 1014 MAX 9950 MIN 68 AC-FT 734400
WTR YR 1980 TOTAL 705613 MEAN 1928 MAX 14700 MIN 264 AC-FT 1400000

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1967 to September 1968, October 1971 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: March 1977 to March 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 4,000 mg/L May 3, 1977; minimum daily, 8 mg/L Oct. 14, 1977.
SEDIMENT LOADS: Maximum daily, 11,400 tons (10,300 t) May 3, 1977; minimum daily, 1.9 tons (1.7 t) Apr. 12, 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 17...	0915	402	1550	8.2	12.5	8.0	580	330	140
NOV 08...	0855	501	1500	--	6.5	10.0	540	310	130
DEC 06...	1215	683	1580	--	2.5	11.5	510	290	120
JAN 16...	1400	986	1500	7.8	5.0	10.2	510	290	120
FEB 13...	0825	962	1200	7.8	.0	11.4	440	240	100
MAR 18...	1225	758	1900	8.0	8.0	9.9	630	400	140
APR 08...	1430	1570	1900	8.3	9.0	10.3	560	340	120
MAY 08...	1300	9510	670	7.7	12.5	7.5	210	120	52
JUN 11...	1200	3480	600	7.9	21.0	7.5	180	96	43
JUL 09...	1245	229	1480	8.4	27.5	8.4	480	270	110
AUG 06...	1125	161	1800	8.2	23.0	--	580	360	120
SEP 22...	1330	394	1640	8.2	15.0	10.6	580	360	120

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT 17...	55	140	2.5	7.9	250	520	67	1.1	13
NOV 08...	53	130	2.4	7.7	230	510	64	1.1	14
DEC 06...	50	120	2.3	4.6	220	470	68	1.0	13
JAN 16...	52	120	2.3	7.4	220	460	60	1.1	13
FEB 13...	46	130	2.7	6.5	200	420	76	.9	12
MAR 18...	68	150	2.6	7.2	230	620	66	1.1	14
APR 08...	62	140	2.6	7.2	220	510	58	1.0	12
MAY 08...	20	45	1.3	4.1	96	170	19	.7	14
JUN 11...	18	41	1.3	3.3	86	150	20	.2	10
JUL 09...	49	100	2.0	7.2	210	440	34	1.2	13
AUG 06...	69	170	3.1	9.6	220	630	67	1.1	10
SEP 22...	68	150	2.7	6.7	220	560	65	1.1	8.9

06758500 SOUTH PLATTE RIVER NEAR WELDONA, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	ALGAL GROWTH POTEN-TIAL, BOTTLE TEST (MG/L)
OCT								
17...	1120	1.52	1220	4.8	.55	20	5	113
NOV								
08...	1070	1.46	1450	4.9	.75	20	9	112
DEC								
06...	1000	1.36	1840	5.0	.83	20	20	--
JAN								
16...	987	1.34	2630	4.9	.91	10	10	--
FEB								
13...	931	1.27	2420	4.3	.93	10	10	--
MAR								
18...	1230	1.67	2520	5.7	.71	10	20	--
APR								
08...	1070	1.46	4540	5.3	.67	10	9	75
MAY								
18...	388	.53	9960	1.3	.15	50	20	--
JUN								
11...	343	.47	3220	1.4	.19	<10	9	--
JUL								
09...	891	1.21	551	2.3	.18	<10	10	37
AUG								
06...	1220	1.66	530	3.1	.07	<10	20	18
SEP								
22...	1120	1.52	1190	2.8	.13	10	6	44

06759100 BIJOU CREEK NEAR FORT MORGAN, CO

LOCATION.--Lat 40°16'58", long 103°52'31", in NW¼SE¼ sec.28, T.4 N., R.58 W., Morgan County, Hydrologic Unit 10190011, on left bank 1,000 ft (305 m) downstream from bridge on State Highway 144, 0.8 mi (1.3 km) upstream from South Platte River, and 4.0 mi (6.4 km) northwest of Fort Morgan.

DRAINAGE AREA.--1,500 mi^2 (3,885 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,302 ft (1,311 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Natural flow of stream affected by delivery of stored water from Bijou No. 2 reservoir to South Platte River past the gage, and waste flows from Fort Morgan Canal, which crosses 1.5 mi (2.4 km) upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,200 ft^3/s (62.3 m^3/s) July 26, 1977, gage height, 6.01 ft (1.832 m) from floodmark, from rating curve extended above 58 ft^3/s (1.6 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 4.8 ft^3/s (0.14 m^3/s) Oct. 2-4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 153 ft^3/s (4.33 m^3/s) at 1500 Oct. 25, gage height, 2.99 ft (0.911 m); minimum daily, 7.4 ft^3/s (0.21 m^3/s) Jan. 19, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	34	8.7	8.5	9.0	9.0	9.2	112	18	16	26	9.0
2	39	12	9.0	8.4	9.5	9.0	9.5	60	19	17	26	9.0
3	38	12	11	8.4	9.0	9.2	9.5	33	18	16	26	9.0
4	56	12	11	8.3	9.5	9.2	9.5	22	18	14	25	50
5	68	14	11	8.2	9.2	9.2	9.5	18	18	16	26	105
6	72	14	9.5	8.2	9.5	9.2	9.5	15	19	16	23	105
7	76	11	9.0	8.1	9.8	9.2	9.5	14	18	15	21	105
8	76	10	9.2	8.0	9.5	9.2	9.5	14	20	14	20	105
9	76	10	9.2	8.0	9.8	9.2	9.2	28	27	13	19	110
10	78	10	9.0	7.9	9.8	9.2	9.2	28	38	13	15	105
11	82	9.8	8.7	7.8	9.5	9.5	9.2	27	36	14	9.0	105
12	100	9.8	9.0	7.8	9.8	9.5	9.2	28	36	14	9.0	105
13	128	9.8	8.7	7.7	9.2	9.5	9.2	27	28	12	9.0	105
14	128	10	9.0	7.7	9.2	9.5	9.8	31	24	12	9.0	105
15	130	9.8	9.0	7.7	9.2	9.5	9.8	33	22	12	9.0	105
16	126	9.8	8.7	7.8	9.2	9.5	10	31	20	13	9.0	105
17	121	9.5	8.7	7.6	9.5	9.2	9.2	30	18	12	9.0	105
18	119	9.5	8.7	7.9	9.2	9.2	9.8	30	18	12	9.0	105
19	114	9.5	8.7	7.4	9.5	9.8	10	33	18	9.0	9.0	105
20	114	10	8.4	7.9	9.2	9.8	11	39	16	8.0	9.0	105
21	107	9.5	9.0	7.9	9.2	9.8	11	47	16	8.0	9.0	50
22	114	9.5	8.7	7.4	9.2	9.8	16	60	16	8.0	9.0	9.0
23	130	9.5	8.4	7.9	9.2	9.8	13	61	16	8.0	9.0	8.1
24	128	9.0	8.4	7.9	9.2	9.5	12	60	16	8.0	9.0	8.4
25	140	9.2	8.4	7.4	9.2	9.5	11	47	16	8.0	9.0	8.7
26	94	9.2	8.4	8.1	9.2	9.5	11	42	16	8.0	9.0	9.0
27	68	9.0	8.7	8.1	9.2	9.8	14	41	17	8.0	9.0	9.2
28	68	9.0	8.7	7.9	9.2	9.5	13	41	17	8.0	9.0	9.0
29	68	8.7	8.6	8.1	9.2	9.2	12	39	16	8.0	9.0	8.7
30	58	9.0	8.6	8.7	---	9.2	54	23	16	24	9.0	9.0
31	55	---	8.5	9.0	---	9.2	---	18	---	25	9.0	---
TOTAL	2808	328.1	278.6	247.7	270.9	291.4	358.3	1132	611	389.0	416.0	1891.1
MEAN	90.6	10.9	8.99	7.99	9.34	9.40	11.9	36.5	20.4	12.5	13.4	63.0
MAX	140	34	11	9.0	9.8	9.8	54	112	38	25	26	110
MIN	37	8.7	8.4	7.4	9.0	9.0	9.2	14	16	8.0	9.0	8.1
AC-FT	5570	651	553	491	537	578	711	2250	1210	772	825	3750

CAL YR 1979 TOTAL 6367.2 MEAN 17.4 MAX 140 MIN 5.3 AC-FT 12630
WTR YR 1980 TOTAL 9022.1 MEAN 24.7 MAX 140 MIN 7.4 AC-FT 17900

NOTE.--NO GAGE-HEIGHT RECORD AUG. 11 TO SEPT. 22.

06760000 SOUTH PLATTE RIVER AT BALZAC, CO

LOCATION.--Lat 40°24'24", long 103°27'58", in NE¼NE¼ sec.13, T.5 N., R.55 W., Morgan County, Hydrologic Unit 10190012, on right bank just upstream from highway bridge at Balzac siding, 2.8 mi (4.5 km) northeast of Union, and 7.0 mi (11.3 km) downstream from Beaver Creek.

DRAINAGE AREA.--16,852 mi^2 (43,647 km^2).

PERIOD OF RECORD.--October 1916 to current year. Prior to October 1933, monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 1310: 1937 (M). WSP 1730: 1957, drainage area. WSP 1918: 1928 (monthly runoff).

GAGE.--Water-stage recorder. Datum of gage is 4,091.06 ft (1,246.955 m) National Geodetic Vertical Datum of 1929. Since Oct. 1, 1936, supplementary water-stage recorder on secondary channel 600 ft (180 m) to the left; at datum 1.69 ft (0.515 m) lower prior to July 24, 1973, and at datum 0.09 ft (0.027 m) lower thereafter. See WSP 1710 or 1730 for history of changes prior to Aug. 21, 1947.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain and transbasin diversions, storage reservoirs, power developments, ground-water withdrawals and diversions above station for irrigation of about 1,065,000 acres (4,310 km^2), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--64 years (water years 1917-80), 426 ft^3/s (12.06 m^3/s), 308,600 acre-ft/yr (380 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 123,000 ft^3/s (3,480 m^3/s) June 18, 1965, gage height, 13.32 ft (4.060 m), from rating curve extended above 6,400 ft^3/s (180 m^3/s), on basis of contracted-opening measurement of peak flow; minimum daily, 1.3 ft^3/s (0.037 m^3/s) Jan. 25, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,100 ft^3/s (456 m^3/s) at 2300 May 18, gage height, 9.54 ft (2.908 m); maximum gage height, 9.73 ft (2.966 m) at 1600 May 4; minimum daily discharge, 76 ft^3/s (2.15 m^3/s) Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	382	461	867	355	1380	1380	4590	6580	541	274	570
2	98	399	642	921	664	1320	1450	5950	6260	371	230	660
3	88	384	1020	902	930	1260	1680	9700	5870	442	207	712
4	87	378	1000	887	1270	1240	2170	13600	5440	507	200	710
5	86	317	847	877	1350	1250	2000	12900	5020	717	192	590
6	80	298	762	877	1270	1300	1820	11700	4880	676	174	495
7	76	287	655	820	1300	1370	1600	11000	4760	546	154	461
8	78	288	613	887	1210	1560	1440	10500	4780	351	163	439
9	78	299	579	864	1090	1440	1410	10200	4850	257	167	429
10	81	304	556	882	993	1300	1390	11000	4760	226	163	432
11	85	308	556	880	1050	1280	1510	10900	4740	223	149	397
12	107	298	547	924	1090	1280	1590	9880	4830	240	152	490
13	126	283	548	866	1110	1240	1600	9120	4720	327	141	612
14	125	273	653	732	1150	1230	1580	10100	4660	398	138	617
15	114	287	769	751	1180	1360	1530	11400	4500	482	163	605
16	115	301	758	845	1170	1360	1590	10800	4210	477	147	568
17	157	284	713	912	1140	1240	1870	10700	3900	439	288	544
18	184	266	681	985	1220	1120	1880	13700	3600	350	545	505
19	192	259	637	933	1400	1080	1660	14800	3290	303	410	476
20	137	266	684	906	1420	1050	1560	14200	3020	333	397	470
21	143	289	794	850	1450	1010	1650	12600	2710	327	264	476
22	161	436	793	823	1430	1130	1930	11600	2640	348	220	346
23	164	481	808	818	1370	1100	1820	10800	2350	289	237	200
24	289	503	836	868	1360	972	2010	10000	2270	264	221	148
25	297	528	854	890	1410	910	2500	9880	1910	286	210	120
26	286	510	846	780	1520	888	4370	10200	1700	440	226	101
27	241	489	869	330	1460	868	6580	10500	1350	416	243	93
28	227	479	883	235	1400	889	5870	9940	1030	445	248	89
29	223	448	903	265	1390	902	5080	8850	893	477	329	84
30	303	486	872	340	---	1000	4590	7900	764	422	362	80
31	360	---	839	415	---	1160	---	7030	---	340	435	---
TOTAL	4933	10810	22978	24132	35152	36489	69110	326040	112287	12260	7454	12519
MEAN	159	360	741	778	1212	1177	2304	10520	3743	395	240	417
MAX	360	528	1020	985	1520	1560	6580	14800	6580	717	545	712
MIN	76	259	461	235	355	868	1380	4590	764	223	138	80
AC-FT	9780	21440	45580	47870	69720	72380	137100	646700	222700	24320	14790	24830

CAL YR 1979 TOTAL 290615 MEAN 796 MAX 9340 MIN 23 AC-FT 576400
WTR YR 1980 TOTAL 674164 MEAN 1842 MAX 14800 MIN 76 AC-FT 1337000

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO

LOCATION.--Lat 40°58'46", long 102°15'15", in NW¼NE¼ and SE¼NE¼ (two channels) sec.33, T.12 N., R.44 W., Sedgwick County, Hydrologic Unit 10190018, on left bank of channel 4 (left channel) 215 ft (66 m) downstream from bridge, and on right bank of channel 2, 600 ft (244 m) downstream from bridge on U.S. Highway 385, 0.9 mi (1.4 km) southeast of Julesburg, 3.0 mi (4.8 km) upstream from Colorado-Nebraska State line, and 8 mi (13 km) downstream from Lodgepole Creek.

DRAINAGE AREA.--23,138 mi^2 (59,927 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1902 to current year. Monthly discharge only for some periods, published in WSP 1310. Published as "near Julesburg" 1903-8, 1915-16, and as "at Ovid" 1922-24.

REVISED RECORDS.--WSP 1310: 1902, 1906-7, 1948(P). WSP 1440: 1903-4. WSP 1730: Drainage area.

GAGE.--Two water-stage recorders. Datum of gages is 3,446.76 ft (1,050.572 m) National Geodetic Vertical Datum of 1929. See WSP 1710 or 1730 for history of changes prior to Oct. 1, 1956. Since Oct. 1, 1956, water-stage recorders on channels nos. 2 and 4. Channel no. 2: Oct. 1, 1956, to Sept. 22, 1965, at site 300 ft (91 m) downstream at present datum. Channel no. 4: Oct. 1, 1956, to Dec. 10, 1958, at site 135 ft (41 m) downstream at present datum. Since May 11, 1973, supplementary water-stage recorder on channel no. 2 at bridge 800 ft (244 m) upstream at same datum.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of 1,200,000 acres (4,940 km^2) above station, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--78 years, 493 ft^3/s (13.96 m^3/s), 357,200 acre-ft/yr (440 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,600 ft^3/s (1,060 m^3/s) June 20, 1965, gage height, 10.44 ft (3.182 m), from floodmarks in gage well; no flow Aug. 18-20, 1902, July 25 to Aug. 7, 1903.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,200 ft^3/s (371 m^3/s) at 0500 May 21, gage height, 8.59 ft (2.618 m); minimum daily, 30 ft^3/s (0.85 m^3/s) Aug. 11, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164	418	560	1040	730	1730	1310	5440	8220	624	47	37
2	185	439	520	988	810	1770	1450	5250	7790	532	43	38
3	195	474	540	1030	900	1750	1590	5190	7310	475	40	38
4	213	511	520	1050	840	1680	1700	5710	6890	386	41	64
5	238	540	700	1040	1150	1620	2110	6870	6500	262	42	130
6	216	565	1080	1080	1420	1640	2470	11400	6100	187	42	163
7	215	533	1060	1080	1770	1710	2540	12500	5610	151	37	208
8	215	531	910	1060	1850	1750	2330	12100	5250	131	39	241
9	220	524	830	998	1800	1860	1980	11500	4970	117	36	236
10	232	536	720	980	1850	1950	1810	11200	4850	102	34	224
11	244	543	680	1080	1750	1840	1680	10900	4760	89	30	216
12	241	549	650	1090	1600	1800	1610	10800	4680	77	36	194
13	238	543	630	1140	1500	1730	1650	10900	4720	69	31	192
14	238	543	630	1170	1550	1660	1660	10200	4820	64	35	182
15	238	535	610	1250	1600	1620	1660	9610	4850	58	40	205
16	244	524	620	1230	1650	1610	1600	10100	5000	57	34	236
17	251	531	730	1130	1700	1520	1540	10800	5050	57	32	239
18	261	541	1000	1200	1900	1410	1660	10800	4370	64	31	219
19	261	538	1110	1200	2100	1300	1820	10600	3760	60	30	206
20	269	552	1060	1280	2530	1170	1790	11600	3650	55	33	189
21	294	503	1000	1270	2600	1110	1770	12800	3430	53	33	185
22	306	480	960	1300	2200	1090	1770	12300	2870	53	32	188
23	314	470	990	1240	2100	1090	1940	11500	2550	52	31	200
24	330	480	930	1220	1990	1120	2040	10800	2270	52	32	213
25	341	610	896	1260	1870	1080	2060	10300	1990	54	33	201
26	351	640	850	1260	1800	1060	2200	9760	1720	58	35	181
27	388	650	873	1310	1790	1070	2920	9540	1370	54	39	168
28	404	660	886	1340	1850	1110	3960	9530	1080	52	41	153
29	398	620	921	1240	1750	1010	5150	9510	874	54	36	141
30	413	590	926	790	---	1000	5580	9310	736	59	36	129
31	417	---	1080	700	---	1130	---	8750	---	51	35	---
TOTAL	8534	16173	25472	35046	48950	44990	65350	307570	128040	4209	1116	5216
MEAN	275	539	822	1131	1688	1451	2178	9922	4268	136	36.0	174
MAX	417	660	1110	1340	2600	1950	5580	12800	8220	624	47	241
MIN	164	418	520	700	730	1000	1310	5190	736	51	30	37
AC-FT	16930	32080	50520	69510	97090	89240	129600	610100	254000	8350	2210	10350

CAL YR 1979 TOTAL 281174 MEAN 770 MAX 7650 MIN 34 AC-FT 557700
WTR YR 1980 TOTAL 690666 MEAN 1887 MAX 12800 MIN 30 AC-FT 1370000

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued
(Irrigation network station)
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1945 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1945 to current year.
WATER TEMPERATURES: Water years 1945-49, October 1950 to current year.

INSTRUMENTATION.--Water-quality monitor from July 1973 to September 1979.

REMARKS.--Specific-conductance and temperature data obtained on channel no. 2 (station 06763990).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 3,270 micromhos Jan. 12, 1971; minimum daily, 348 micromhos Aug. 15, 1968.
WATER TEMPERATURES: Maximum, 36.0°C July 17, 19, 1977, July 16, 1978; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 2,250 micromhos Feb. 1; minimum daily, 717 micromhos May 7.
WATER TEMPERATURES: Maximum daily, 26.5°C Aug. 29; minimum daily, freezing point on several days during January and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)	DATE	TIME	OXYGEN, DIS- SOLVED (MG/L)
SEP			SEP		
10...	0100	6.5	10...	2200	6.4
10...	0200	6.5	10...	2300	6.4
10...	0300	6.6	10...	2400	6.5
10...	0400	6.7	11...	0800	7.5
10...	0500	6.7	11...	0900	8.9
10...	0600	6.6	11...	1000	10.1
10...	0700	6.7	11...	1100	11.0
10...	1430	12.1	11...	1200	11.7
10...	1600	12.2	11...	1300	12.1
10...	1700	12.0	11...	1400	12.2
10...	1800	10.5	11...	1500	12.3
10...	1900	9.0	11...	1600	12.4
10...	2000	7.6	11...	1650	12.3
10...	2100	6.9			

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
OCT												
16...	0800	231	2280	8.3	13.0	17	9.0	2.2	K1660	--	800	560
NOV												
27...	1015	696	1500	8.1	.0	36	--	5.4	K21	K600	630	430
DEC												
13...	0930	766	2110	--	.0	32	11.5	5.3	K114	K371	740	470
JAN												
16...	0750	3050	1600	8.1	.0	74	11.6	5.5	--	--	620	380
FEB												
12...	0900	4210	1950	7.6	.0	7.0	11.0	5.8	--	--	690	450
MAR												
17...	1255	1320	1900	8.4	6.5	110	10.4	5.5	--	--	620	400
APR												
07...	1500	2030	1900	8.3	.0	84	10.0	4.3	K170	900	590	380
MAY												
07...	0930	8740	860	8.0	16.0	160	7.1	2.2	<20	2000	300	180
JUN												
10...	0830	5700	940	8.0	19.0	130	6.8	2.1	K10	320	300	170
JUL												
10...	0845	245	1750	7.9	21.5	5.3	8.2	2.0	--	--	540	330
AUG												
12...	0800	26	2150	8.0	18.5	1.5	10.0	2.5	<1	--	680	460
SEP												
10...	1430	128	2060	7.7	17.5	35	12.1	.7	900	340	580	430

K BASED ON NON-IDEAL COLONY COUNT.

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT 16...	200	73	210	3.2	20	240	880	90	.8	25	1680	1650
NOV 27...	160	57	170	2.9	15	200	710	83	1.0	20	1500	1350
DEC 13...	190	64	180	2.9	13	270	760	83	1.0	22	1540	1490
JAN 16...	160	54	150	2.6	11	240	590	75	1.0	18	1160	1220
FEB 12...	170	64	170	2.8	11	240	650	93	.8	18	1310	1340
MAR 17...	150	60	150	2.6	9.7	220	620	67	1.0	16	1290	1230
APR 07...	140	58	150	2.7	12	210	550	72	.9	16	1280	1140
MAY 07...	77	26	50	1.3	8.9	120	250	26	.1	14	568	529
JUN 10...	76	27	68	1.7	6.7	130	280	35	.7	14	603	592
JUL 10...	140	46	130	2.4	15	210	570	50	1.0	21	1200	1100
AUG 12...	180	55	170	2.8	19	220	700	84	.8	24	1450	1370
SEP 10...	130	61	190	3.4	7.4	150	690	82	.8	18	1380	1270

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)
OCT 16...	2.28	1050	1.40	1.5	.15	.13	.73	.59	.88	.16	.72	2.3
NOV 27...	2.04	2820	--	3.9	.45	.49	1.2	1.0	1.60	.10	1.5	--
DEC 13...	2.09	3190	4.20	4.1	.38	.42	1.2	.78	1.60	.40	1.2	5.8
JAN 16...	1.58	9550	4.20	4.1	.94	.94	1.2	.46	2.10	.70	1.4	6.3
FEB 12...	1.78	14900	4.10	4.2	.59	.57	1.1	1.0	1.70	.10	1.6	5.8
MAR 17...	1.75	4600	4.50	4.7	.04	.00	1.9	.81	1.90	1.1	.81	6.4
APR 07...	1.74	7020	3.50	3.5	.06	.03	2.0	.79	2.10	1.3	.82	5.6
MAY 07...	.77	13400	1.20	1.2	.10	.01	2.2	.99	2.30	1.3	1.0	3.5
JUN 10...	.82	9280	1.30	1.4	.00	.01	1.5	.69	1.50	.80	.70	2.8
JUL 10...	1.63	794	.93	.93	.10	.12	2.3	.98	2.40	1.3	1.1	3.3
AUG 12...	1.97	103	1.10	1.1	.34	.37	.96	1.0	1.30	.00	1.4	2.4
SEP 10...	1.88	477	.00	.07	.03	.02	2.3	.66	2.30	1.6	.68	2.3

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)
OCT												
16...	.10	.05	0	--	8.1	.5	--	31.4	20.1	11.8	<.202	280
NOV												
27...	.39	.27	--	12	--	--	7700	--	--	--	--	--
DEC												
13...	.32	.35	--	11	--	--	--	--	--	--	--	--
JAN												
16...	.86	.56	--	14	--	--	--	--	--	--	--	--
FEB												
12...	.45	.47	--	6.7	--	--	--	--	--	--	--	--
MAR												
17...	.90	.51	0	--	6.4	1.1	2000	--	--	--	--	--
APR												
07...	.83	.42	0	15	--	--	--	--	--	--	--	--
MAY												
07...	.60	.19	0	23	--	--	5100	--	--	--	--	--
JUN												
10...	.49	.20	1	--	11	1.1	7000	--	--	--	--	--
JUL												
10...	.11	.06	0	7.2	--	--	47000	--	--	--	--	--
AUG												
12...	.08	.06	0	--	7.8	.5	24000	--	--	--	--	--
SEP												
10...	.15	.01	0	18	--	--	--	--	--	--	--	--

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
OCT										
16...	0800	--	3	100	100	0	3	10	0	0
MAR										
17...	1255	5	2	200	50	0	<1	10	0	1
JUN										
10...	0830	4	3	200	50	1	2	0	0	3
AUG										
12...	0800	4	5	100	90	0	<1	10	10	0

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT									
16...	0	13	3	720	10	3	0	160	10
MAR									
17...	<3	17	3	5800	<10	14	0	330	4
JUN									
10...	<3	28	8	7000	50	23	0	360	5
AUG									
12...	<3	5	2	120	<10	3	0	100	70

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT									
16...	--	.0	0	2	--	3	0	40	10
MAR									
17...	.0	.0	9	3	5	4	0	50	<3
JUN									
10...	.1	.0	7	0	2	2	0	80	7
AUG									
12...	.1	.0	4	4	2	2	0	20	<3

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
NOV 27...	1015	37	4.6	55	6.7	17	11	17	10	.26	45
MAY 07...	0930	18	27	26	40	13	21	13	20	.09	19

DATE	TIME	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
NOV 27...	1015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 12...	0900	ND	--	ND	--	ND	--	ND	--	ND	--
AUG 12...	0800	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-AZINON, TOTAL (UG/L)	DI-AZINON, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DI-ELDRIN TOTAL (UG/L)	DI-ELDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR, TOTAL (UG/L)
NOV 27...	ND	ND	--	ND	ND	ND	ND	ND	--	ND	ND
FEB 12...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
AUG 12...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	HEPTA-CHLOR, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	MALA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	METH-OXY-CHLOR, TOTAL (UG/L)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)
NOV 27...	ND	ND	ND	ND	ND	--	ND	ND	ND	--	ND
FEB 12...	--	ND	--	ND	--	ND	--	ND	--	ND	--
AUG 12...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL TRI-THION, TOTAL (UG/L)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	PARA-THION, TOTAL (UG/L)	PARA-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 27...	--	ND	--	ND	ND	ND	--	ND	ND	ND	ND
FEB 12...	ND	--	ND	--	ND	--	ND	--	--	--	--
AUG 12...	ND	--	ND	--	ND	--	ND	--	--	--	--

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1960	2040	1420	2250	1650	1690	1080	821	1350	1800	1870
2	---	1840	2080	1790	2110	1710	---	930	826	1370	1820	1900
3	---	1980	2160	1750	2120	1710	1620	963	830	1360	1830	1920
4	---	1920	1720	1750	2070	1730	1660	1110	840	1390	1850	1950
5	---	1930	1830	1760	1920	1730	1630	1010	843	1450	1840	1870
6	---	1960	1790	1770	1870	1730	1590	868	858	1490	1850	1810
7	---	1990	1790	1860	1780	1730	1650	717	896	1510	1850	1790
8	---	2020	1830	1500	1780	1720	1550	887	920	1540	1800	1780
9	---	2030	1820	2020	1830	1720	1600	915	923	1530	1870	1800
10	---	2000	1830	2010	1850	1640	1640	904	900	1580	1870	1820
11	---	1900	1870	1950	1840	1690	1570	907	876	---	1880	1820
12	---	1990	1970	1940	1780	1740	1550	882	884	1600	1830	1840
13	---	1940	1980	1820	1800	1760	1540	873	861	1600	1810	1840
14	---	1880	1970	1800	1790	1770	1550	922	824	1620	1870	1840
15	2100	2020	1920	1730	1790	1770	1520	939	810	1640	1870	1840
16	2110	2040	1930	---	1800	1790	1520	874	79[illegible]	1640	1860	1830
17	1980	2030	1990	1730	1770	1700	1440	876	802	1680	1890	1820
18	1930	1940	1900	1770	1710	1610	1500	883	871	1660	1890	1850
19	2140	1900	1860	1770	1660	1700	1410	903	921	1690	1890	1850
20	1810	1870	1870	1710	1560	1780	1320	879	942	1690	1840	1840
21	2100	---	1850	1520	1490	1780	1390	840	987	1710	1890	1830
22	1820	---	1800	1780	1460	1740	1460	849	1070	1730	1900	1830
23	2110	1860	1760	1830	1520	1770	1440	877	1110	1740	1880	1860
24	1370	1840	1770	1830	1420	1750	1210	880	1100	1760	1890	1850
25	1780	1810	1780	1830	1550	1560	1300	866	1120	1770	1820	1860
26	2030	1800	1770	1920	1400	1720	1290	858	1140	1750	1870	1890
27	1950	1880	1760	---	1660	1760	1240	819	1180	1780	1900	1900
28	1750	2010	1790	2040	1620	---	1050	790	1240	1770	1910	1920
29	1950	2110	1800	2050	1610	---	1000	764	1300	1800	1860	1930
30	1890	2140	1710	2120	---	1720	893	764	1320	1800	1910	1880
31	2000	---	1740	2110	---	1720	---	798	---	1810	1920	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	5.0	1.0	1.0	2.0	2.5	5.0	14.5	19.0	22.0	20.0	15.0
2	---	4.5	.5	1.5	2.5	2.0	---	14.0	17.5	21.0	19.5	15.5
3	---	4.0	2.0	1.5	1.5	4.0	5.0	15.0	17.0	23.0	21.0	17.0
4	---	6.0	3.0	2.0	2.0	3.0	6.0	16.0	19.5	24.0	18.0	17.0
5	---	4.5	2.0	1.5	2.0	1.0	7.0	16.0	20.5	23.0	19.5	17.5
6	---	4.0	2.0	-0.5	2.5	5.0	8.0	16.0	21.5	24.5	21.0	19.0
7	---	8.0	1.0	.0	.0	4.0	7.5	15.5	20.0	20.0	21.5	20.0
8	---	5.0	1.0	.0	1.0	4.0	10.0	14.5	19.0	20.5	20.0	26.5
9	---	6.5	3.0	.5	1.0	5.5	7.0	14.5	17.5	22.5	21.0	15.5
10	---	4.5	.5	.0	1.0	8.5	9.0	16.0	19.0	20.0	21.5	17.0
11	---	5.0	.5	2.0	.0	7.0	7.0	14.0	20.5	---	19.0	25.0
12	---	4.0	1.0	1.5	.5	7.5	8.0	13.0	22.0	20.5	19.5	17.5
13	---	3.0	2.0	3.0	3.0	5.0	7.5	11.0	22.0	20.0	22.5	16.0
14	---	6.5	2.0	1.5	1.0	7.5	8.0	14.0	24.0	22.0	21.5	17.0
15	---	8.0	1.0	1.5	.5	7.5	12.0	14.5	22.0	20.5	20.0	17.5
16	13.0	8.0	.5	.0	1.5	7.0	11.0	13.0	21.5	26.0	19.5	14.5
17	14.0	5.5	1.0	3.0	1.0	6.5	10.5	12.5	19.5	21.0	16.0	13.0
18	14.5	7.0	1.0	3.0	2.0	9.0	17.0	12.0	22.0	20.0	22.0	15.0
19	13.0	5.5	1.5	1.0	2.0	9.0	13.0	12.5	20.5	20.5	18.5	16.0
20	12.0	3.5	1.0	2.0	3.0	10.5	15.0	15.0	19.0	20.5	17.0	16.0
21	11.5	---	1.5	1.0	1.5	11.5	15.0	17.0	22.0	19.5	15.0	17.0
22	10.0	---	2.0	2.0	4.0	7.0	15.5	16.0	20.5	19.0	17.0	19.0
23	10.0	1.0	1.5	5.0	4.0	6.0	15.0	17.0	23.0	16.0	20.0	11.5
24	10.0	2.0	.5	5.0	5.0	5.0	17.0	18.0	24.0	20.0	22.0	15.0
25	10.5	2.0	2.0	3.5	7.0	7.0	13.0	18.0	24.5	23.0	21.0	13.0
26	10.0	2.0	3.5	.5	5.0	6.0	12.5	16.0	25.0	18.0	17.5	10.0
27	12.0	1.0	4.5	---	9.0	6.5	12.5	16.0	23.0	25.0	18.0	13.5
28	11.0	.0	3.0	.5	7.0	---	12.0	18.0	21.0	20.5	18.0	14.5
29	11.5	.5	2.5	.0	4.5	4.5	15.0	19.0	21.0	20.0	26.5	16.0
30	5.0	1.0	.5	.0	---	7.0	15.0	16.5	23.0	20.0	17.0	12.0
31	4.0	---	.5	.0	---	5.0	---	17.5	---	22.0	17.5	---

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	NOV 27,79 1015	MAR 17,80 1255	MAY 7,80 0930	JUN 10,80 0830
TOTAL CELLS/ML	7700	2000	5100	7000
DIVERSITY: DIVISION	1.4	0.6	1.4	1.5
.CLASS	1.4	0.6	1.4	1.5
..ORDER	1.8	0.8	1.9	2.0
...FAMILY	3.0	2.5	3.0	2.5
....GENUS	3.3	2.7	3.5	2.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	110	2	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	93	1	16	1	160	3	140	2
....CLOSTERIOPSIS	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	69	1
....OOCYSTIS	--	-	--	-	--	-	--	-
....QUADRIGULA	--	-	--	-	--	-	270	4
....SELENASTRUM	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....CRUCIGENIA	--	-	--	-	--	-	--	-
....SCENEDESMUS	560	7	65	3	55	1	1400*	20
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	93	1	150	7	55	1	69	1
....CHLOROGONIUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	330	4	49	2	360	7	1200*	17
....MELOSIRA	--	-	--	-	--	-	960	14
....SKELETONEMA	370	5	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	93	1	--	-	27	1	210	3
....RHOICOSPHENIA	--	-	--	-	27	1	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	--	-	27	1	--	-
....RHOPALODIA	47	1	--	-	27	1	--	-
...DIATOMACEAE								
....DIATOMA	47	1	82	4	--	-	--	-
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	33	2	--	-	--	-
....FRAGILARIA	140	2	310*	15	850*	17	--	-
....SYNEDRA	280	4	33	2	110	2	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	93	1	65	3	55	1	--	-
...NAVICULACEAE								
....CALONEIS	--	-	--	-	27	1	--	-
....NAVICULA	2000*	26	870*	43	580	11	270	4
...NITZSCHIACEAE								
....NITZSCHIA	1100	14	310*	15	740	15	480	7
...SURIRELLACEAE								
....SURIRELLA	47	1	33	2	55	1	69	1
.XANTHOPHYCEAE								
..HETEROCOCCALES								
...CHLOROTHECIACEAE								
....OPHIOCYTIUM	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	16	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	220	4	--	-
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	470	6	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	690	13	--	-
....OSCILLATORIA	470	6	--	-	850*	17	1900*	27
....SCHIZOTHRIX	1400*	18	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	55	1	--	-
....PHACUS	--	-	--	-	27	1	--	-
....TRACHELOMONAS	93	1	--	-	--	-	--	-

NOTE: * - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

06764000 SOUTH PLATTE RIVER AT JULESBURG, CO--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUL 10,80 0845		AUG 12,80 0800		SEP 10,80 1430	
TOTAL CELLS/ML	110000		24000		240000	
DIVERSITY: DIVISION	0.4		1.3		0.9	
.CLASS	0.4		1.3		0.9	
..ORDER	0.9		1.5		1.0	
...FAMILY	1.5		2.1		1.1	
....GENUS	1.5		2.1		1.8	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	2100	9	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	800	1	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	*	0	150	1	2700	1
....CLOSTERIOPSIS	*	0	--	-	--	-
....DICTYOSPHAERIUM	1100	1	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-
....OOCYSTIS	*	0	--	-	--	-
....QUADRIGULA	--	-	--	-	--	-
....SELENASTRUM	*	0	--	-	1800	1
....TETRAEDRON	*	0	--	-	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	*	0	--	-	--	-
....SCENEDESMUS	1400	1	600	2	14000	6
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	*	0	--	-	1800	1
....CHLOROGONIUM	--	-	150	1	--	-
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	*	0	1000	4	45000#	19
....MELOSIRA	*	0	--	-	150000#	61
....SKELETONEMA	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
....RHOICOSPHENIA	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	--	-	--	-
....RHOPALODIA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....FRAGILARIA	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	150	1	--	-
...NAVICULACEAE						
....CALONEIS	--	-	--	-	--	-
....NAVICULA	--	-	3000	12	1800	1
...NITZSCHIACEAE						
....NITZSCHIA	--	-	11000#	47	2700	1
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
.XANTHOPHYCEAE						
..HETEROCOCCALES						
...CHLOROTHECIACEAE						
....OPHIOCYTIUM	*	0	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	13000	12	--	-	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	13000	12	--	-	--	-
....APHANIZOMENON	--	-	--	-	24000	10
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	--	-
....OSCILLATORIA	75000#	70	5700#	23	--	-
....SCHIZOTHRIX	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	--	-	--	-
....PHACUS	*	0	--	-	--	-
....TRACHELOMONAS	550	1	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

RESERVOIRS IN SOUTH PLATTE RIVER BASIN

06695500 ELEVENMILE CANYON RESERVOIR.--Lat 38°54'19", long 105°28'30", in N½SW¼ sec.20, T.13 S., R.72 W., Park County, Hydrologic Unit 10190001, at north end of dam on South Platte River, 8 mi (13 km) southwest of Lake George. DRAINAGE AREA, 963 mi^2 (2,494 km^2). PERIOD OF RECORD, October 1932 to current year. Prior to September 1938, published in WSP 1310. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read twice daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Denver Board of Water Commissioners); gage readings have been reduced to elevations NGVD.

Reservoir is formed by concrete arch dam; storage began in October 1932; dam completed in November 1932. Spillway built 5.00 ft (1.524 m) higher Aug. 1, 1957. Capacity, 97,780 acre-ft (121 hm^3) between elevations 8,488.25 ft (2,587.219 m), invert of outlet pipe, and 8,597.00 ft (2,620.366 m), crest of spillway. Dead storage is negligible. Figures given represent total contents. Water is for municipal use by city of Denver. Records furnished by Denver Board of Water Commissioners.

EXTREMES FOR PERIOD OF RECORD: Maximum contents observed, 111,200 acre-ft (137 hm^3) Apr. 28, 1970, elevation, 8,600.82 ft (2,621.530 m); no contents at times in 1935.

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 104,400 acre-ft (129 hm^3) June 16, elevation, 8,598.91 ft (2,620.948 m); minimum observed, 95,830 acre-ft (118 hm^3) Aug. 12, 13, elevation, 8,596.42 ft (2,620.189 m).

06701000 CHEESMAN LAKE.--Lat 39°12'26", long 105°16'18", in NW¼SW¼ sec.6, T.10 S., R.70 W., Douglas County, Hydrologic Unit 10190002, at dam on South Platte River, 4.1 mi (6.6 km) southwest of Deckers. DRAINAGE AREA, 1,752 mi^2 (4,538 km^2). PERIOD OF RECORD, September 1900 to December 1901, September 1902 to current year. Prior to October 1938, published in WSP 1310. Published as Lake Cheesman prior to 1947. REVISED RECORDS, WSP 1730: Drainage area. GAGE, nonrecording gage read twice daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Denver Board of Water Commissioners).

Reservoir is formed by masonry dam. Storage began September 1900. Dam completed about October 1902. Capacity, 79,060 acre-ft (97.5 hm^3) at gage height 212 ft (64.4 m), spillway crest, above sill of lowest gate. No dead storage. Figures given represent total contents. Water is for municipal use by city of Denver. Records furnished by Denver Board of Water Commissioners.

EXTREMES FOR PERIOD OF RECORD: Maximum contents observed, 81,360 acre-ft (100 hm^3) Apr. 29, 1970, gage height, 214.60 ft (65.410 m); minimum observed since appreciable storage was attained, 3,650 acre-ft (4.50 hm^3) Apr. 20, 1933, gage height, 55.02 ft (16.770 m).

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 80,140 acre-ft (98.8 hm^3) June 14, gage height, 213.23 ft (64.993 m); minimum observed, 67,030 acre-ft (82.6 hm^3) Nov. 13, gage height, 197.53 ft (60.207 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	06695500 ELEVENMILE CANYON RESERVOIR			06701000 CHEESMAN RESERVOIR		
Sept. 30.	8,597.01	97,810	-	212.04	79,070	-
Oct. 31.	8,597.05	97,950	+140	199.07	68,260	-10,810
Nov. 30.	8,597.02	97,850	-100	198.75	68,000	-260
Dec. 31.	8,597.04	97,920	+70	200.45	69,360	+1,360
CAL YR 1979			+7,230			+31,110
Jan. 31.	8,596.99	97,750	-170	199.48	68,580	-780
Feb. 29.	8,596.99	97,750	0	200.70	69,560	+980
Mar. 31.	8,596.99	97,750	0	202.30	70,870	+1,310
Apr. 30.	8,596.91	97,480	-270	212.56	79,560	+8,690
May 31.	8,597.80	100,500	+3,020	212.87	79,830	+270
June 30.	8,598.46	102,800	+2,300	212.81	79,770	-60
July 31.	8,596.84	97,240	-5,560	207.30	75,020	-4,750
Aug. 31.	8,596.55	96,270	-970	203.65	71,970	-3,050
Sept. 30.	8,596.65	96,600	+330	200.55	69,440	-2,530
WTR YR 1980			-1,210			-9,630

06823000 NORTH FORK REPUBLICAN RIVER AT COLORADO-NEBRASKA STATE LINE

LOCATION.--Lat 40°04'10", long 102°03'05", in sec.10, T.1 N., R.42 W., Dundy County, NE, Hydrologic Unit 10250002, on right bank 100 ft (30 m) east of Colorado-Nebraska State line and 9.5 mi (15.3 km) upstream from confluence with Arikaree River.

DRAINAGE AREA.--1,360 mi² (3,520 km²), approximately, of which about 100 mi² (260 km²) contribute directly to surface runoff.

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1932, published as North Fork of Arikaree River at Colorado-Nebraska State line. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1240: 1947(M). WSP 1390: 1934. WSP 2119: Drainage area.

GAGE.--Water-stage recorder. Steel-piling control since January 1965. Datum of gage is 3,336.09 ft (1,016.840 m)National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1934, nonrecording gage at present site and datum.

REMARKS.--Records good. Natural flow affected by diversion in Pioneer Canal for irrigation of about 2,700 acres (10.9 km²) in Colorado and Nebraska.

AVERAGE DISCHARGE.--50 years, 47.6 ft³/s (1.348 m³/s), 34,490 acre-ft/yr (42.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,110 ft³/s (59.8 m³/s) Apr. 28, 1947, gage height, 5.92 ft (1.804 m), from rating curve extended above 800 ft³/s (22.7 m³/s), on basis of slope-area measurement of peak flow; no flow Aug. 25, 26, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 210 ft³/s (5.95 m³/s) Apr. 4, gage height, 1.86 ft (0.567 m), indefinite stage-discharge relation, only peak above base of 130 ft³/s (3.7 m³/s); minimum daily, 3.0 ft³/s (0.085 m³/s) Mar. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	39	52	52	68	52	118	79	26	6.1	9.6	21
2	7.1	37	54	54	72	53	114	75	23	6.2	5.4	27
3	7.2	38	55	53	73	53	160	70	23	33	4.0	26
4	8.9	39	56	52	70	53	170	67	20	23	4.0	23
5	7.3	39	58	52	73	52	120	65	15	26	5.4	24
6	8.8	39	57	55	70	51	92	65	10	30	5.4	23
7	9.9	40	56	46	71	53	98	69	12	18	6.3	22
8	9.9	43	55	48	64	52	96	65	14	12	7.8	22
9	10	47	55	50	52	53	97	63	11	8.5	4.5	42
10	13	50	58	50	56	53	96	61	9.5	7.6	6.7	48
11	11	50	55	52	59	54	92	60	9.0	7.6	7.2	29
12	12	52	53	54	58	53	86	60	7.0	7.1	6.9	20
13	12	51	53	55	59	52	81	57	5.5	5.7	6.6	19
14	12	52	53	61	58	53	79	58	4.5	6.4	16	21
15	9.0	52	54	62	58	53	77	58	4.0	6.2	15	20
16	6.7	53	48	62	58	52	76	78	5.0	6.7	13	20
17	8.6	53	50	61	59	51	75	79	7.2	7.5	12	18
18	7.2	54	53	61	62	51	71	73	7.0	5.4	12	17
19	9.7	55	54	61	67	51	68	68	10	4.5	8.8	17
20	12	59	54	61	67	52	66	73	38	4.5	7.6	17
21	17	61	55	63	64	53	64	65	35	4.5	9.1	17
22	22	52	55	62	56	52	63	63	33	4.0	9.2	16
23	22	54	55	62	56	52	63	59	27	5.4	6.5	15
24	17	56	55	61	54	53	63	56	17	9.6	6.5	14
25	19	54	55	64	53	55	62	56	8.8	10	8.1	15
26	18	55	54	60	53	57	62	55	6.2	15	8.3	14
27	26	54	56	54	52	60	61	31	4.5	9.6	19	13
28	27	50	58	54	52	45	61	34	4.0	8.5	21	12
29	29	48	57	56	52	7.2	63	31	6.4	6.4	12	11
30	31	50	52	60	---	3.0	78	30	9.6	5.1	13	10
31	36	---	50	64	---	86	---	28	---	6.3	13	---
TOTAL	452.6	1476	1685	1762	1766	1570.2	2572	1851	412.2	316.4	289.9	613
MEAN	14.6	49.2	54.4	56.8	60.9	50.7	85.7	59.7	13.7	10.2	9.35	20.4
MAX	36	61	58	64	73	86	170	79	38	33	21	48
MIN	6.3	37	48	46	52	3.0	61	28	4.0	4.0	4.0	10
AC-FT	898	2930	3340	3490	3500	3110	5100	3670	818	628	575	1220

CAL YR 1979 TOTAL 11718.0 MEAN 32.1 MAX 69 MIN 2.5 AC-FT 23240
WTR YR 1980 TOTAL 14766.3 MEAN 40.3 MAX 170 MIN 3.0 AC-FT 29290

06826000 BONNY RESERVOIR NEAR HALE, CO

LOCATION.--Lat 39°37'24", long 102°10'26", in SE¼SE¼ sec.9, T.5 S., R.43 W., Yuma County, Hydrologic Unit 10250003, in stair well to outlet conduit of Bonny Dam on South Fork Republican River, 1.7 mi (2.7 km) west of Hale, and 3.0 mi (4.8 km) downstream from Landsman Creek.

DRAINAGE AREA.--1,820 mi² (4,710 km²), approximately.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1710: 1955.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Prior to Oct. 1, 1967, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by an earthfill dam. Storage began July 6, 1950; dam completed May 4, 1951. Capacity of reservoir, 170,200 acre-ft (210 hm³) below elevation 3,710 ft (1,130.8 m), crest of spillway, of which 128,800 acre-ft (159 hm³) is for flood control and 39,900 acre-ft (49.2 hm³) is for irrigation. Dead storage, 1,420 acre-ft (1.75 hm³) below elevation 3,635.0 ft (1,107.95 m), sill of trashrack at outlet conduit. Figures given represent total contents.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,030 acre-ft (67.9 hm³) May 17, 1957, elevation, 3,678.10 ft (1,121.085 m); minimum observed since appreciable contents was attained, 22,570 acre-ft (27.83 hm³) Oct. 6-14, 1952, elevation, 3,661.20 ft (1,115.934 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 41,260 acre-ft (50.9 hm³) June 23, 25, elevation, 3,671.96 ft (1,119.213 m); minimum, 32,980 acre-ft (40.7 hm³) Nov. 3-5, elevation, 3,667.62 ft (1,117.891 m).

Capacity table (elevation, in feet, and total contents, in acre-feet)
(Furnished by Water and Power Resources Service)

3,665.0	28,460
3,672.0	41,340

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33510	33010	33990	35040	34790	35080	36500	39170	40650	40970	39610	37810
2	33420	33000	34030	35040	34800	35080	36670	39250	40650	41050	39570	37770
3	33350	32990	34080	35020	34820	35090	36760	39310	40650	41070	39450	37690
4	33310	32990	34050	35000	34840	35090	36820	39370	40650	41070	39330	37640
5	33290	32990	34100	34990	34860	35080	36930	39430	40600	41030	39290	37620
6	33270	33000	34250	34930	34870	35080	37020	39490	40540	40990	39230	37560
7	33270	33020	34280	34910	35000	35060	37120	39510	40440	40950	39190	37500
8	33220	33040	34320	34870	35040	35060	37280	39530	40380	40850	39030	37920
9	33180	33060	34340	34840	35060	35040	37410	39550	40360	40790	38970	38370
10	33220	33080	34370	34800	35060	35040	37520	39570	40340	40710	38910	38430
11	33240	33100	34390	34760	35060	35020	37620	39590	40300	40710	38820	38430
12	33220	33150	34450	34720	35060	35040	37690	39610	40300	40650	38780	38410
13	33180	33200	34470	34690	35020	35080	37790	39620	40280	40600	38640	38390
14	33180	33250	34500	34670	35000	35090	37880	39640	40200	40540	38700	38370
15	33180	33300	34480	34650	34990	35130	37960	39720	40100	40480	38720	38330
16	33180	33350	34540	34650	34990	35150	38060	39940	40220	40400	38660	38270
17	33180	33400	34560	34650	35000	35190	38110	40100	40220	40240	38560	38290
18	33180	33450	34620	34650	35040	35230	38190	40200	40180	40120	38540	38250
19	33220	33500	34650	34650	35040	35270	38250	40280	40260	40040	38460	38190
20	33170	33600	34670	34670	35060	35310	38310	40420	41050	39940	38350	38150
21	33150	33980	34710	34670	35080	35350	38370	40520	41190	39860	38270	38110
22	33150	33980	34740	34690	35090	35390	38410	40560	41240	39780	38210	38080
23	33130	33980	34780	34690	35090	35430	38440	40580	41260	39820	38150	38020
24	33120	33980	34820	34710	35090	35480	38480	40650	41240	39760	38080	38020
25	33100	33980	34870	34710	35090	35540	38580	40650	41260	40020	39960	37960
26	33080	33980	34890	34710	35080	35600	38660	40650	41240	39980	37900	37920
27	33070	33980	34910	34710	35080	35800	38700	40670	41130	39960	37850	37900
28	33060	33960	35000	34720	35080	36060	38760	40690	41050	39920	37790	37900
29	33040	33960	35040	34740	35080	36120	38870	40650	41070	39880	37730	37830
30	33030	33960	35040	34760	---	36180	39070	40650	41030	39740	37770	37680
31	33020	---	35040	34780	---	36160	---	40650	---	39700	37870	---
MAX	33510	33980	35040	35040	35090	36180	39070	40690	41260	41070	39960	38430
MIN	33020	32990	33990	34650	34790	35020	36500	39170	40100	39700	37730	37500

WTR YR 1980 MAX 41260 MIN 32990

06826500 SOUTH FORK REPUBLICAN RIVER NEAR HALE, CO

LOCATION.--Lat 39°37'26", long 102°09'47", in SW¼NE¼ sec.15, T.5 S., R.43 W., Yuma County, Hydrologic Unit 10250003, on right bank 0.5 mi (0.8 km) downstream from Bonny Dam and 1.2 mi (1.9 km) west of Hale.

DRAINAGE AREA.--1,825 mi² (4,730 km²), approximately.

PERIOD OF RECORD.--October 1946 to September 1948, May 1951 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,610 ft (1,100 m), from topographic map. Oct. 1, 1946, to Sept. 30, 1948, at site 4 mi (6 km) downstream at different datum.

REMARKS.--Records good. Flow regulated by Bonny Reservoir since July 6, 1950 (station 06826000). Many diversions above station for irrigation. Water diverted by Hale ditch from Bonny Reservoir bypasses station (1,960 acre-ft or 2.42 hm³ diverted during current year). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Hale ditch diversion records furnished by State Engineer of Colorado.

AVERAGE DISCHARGE.--29 years (water years 1952-80), 21.0 ft³/s (0.595 m³/s), 15,210 acre-ft/yr (18.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,790 ft³/s (107 m³/s) May 28, 1947, gage height, 4.71 ft (1.436 m), site and datum then in use; maximum gage height, 4.84 ft (1.475 m) Apr. 28, 1947, site and datum then in use; no flow Aug. 11-13, 1947.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood known occurred May 31, 1935, stage and discharge not determined. A discharge of 103,000 ft³/s (2,920 m³/s) was determined at a site near Newton 5.5 mi (8.8 km) upstream, with a drainage area of approximately 1,270 mi² (3,290 km²).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 102 ft³/s (2.89 m³/s) at 2300 July 25, gage height, 4.76 ft (1.451 m); minimum daily, 4.4 ft³/s (0.12 m³/s) June 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	5.7	7.9	20	14	34	7.5	6.0	4.4	7.0	8.5	7.1
2	5.2	6.0	9.2	28	28	36	7.1	5.8	4.8	7.6	8.0	6.0
3	5.2	6.1	9.4	30	26	36	7.1	5.6	4.7	8.8	8.0	5.8
4	5.8	6.4	8.4	30	26	34	6.3	5.4	4.9	7.5	8.0	6.3
5	5.8	7.2	6.2	31	26	34	7.6	5.5	4.8	7.0	8.0	5.9
6	5.2	5.9	6.3	30	25	35	6.6	6.1	4.7	6.9	7.4	5.6
7	5.8	5.8	5.8	36	25	35	6.6	6.1	4.7	6.3	7.4	5.4
8	5.8	6.9	6.1	32	25	34	6.6	6.0	5.0	6.4	7.4	7.5
9	5.8	6.8	5.8	32	25	35	6.6	6.2	5.0	6.1	6.6	9.9
10	5.8	6.7	5.9	33	25	26	6.6	6.1	4.8	5.7	6.6	6.4
11	5.8	6.8	6.1	32	25	20	6.6	6.1	4.9	6.1	7.4	6.0
12	5.8	6.8	6.8	33	30	21	6.5	6.4	5.3	6.8	6.6	5.7
13	5.8	7.3	7.2	34	35	14	6.4	5.9	5.2	6.0	7.4	5.6
14	5.8	7.7	7.1	33	35	7.4	6.4	6.5	5.2	5.9	8.0	5.5
15	5.8	6.7	6.4	32	34	7.3	6.3	7.2	5.4	5.9	8.0	5.4
16	5.8	6.6	5.8	33	34	9.5	6.9	11	7.5	5.4	6.6	5.3
17	5.8	6.7	6.4	32	36	7.6	5.9	8.7	6.0	5.1	6.6	5.1
18	5.8	6.7	6.4	32	36	6.9	5.9	8.1	6.9	5.4	5.8	5.7
19	5.8	7.3	6.5	32	36	7.3	5.6	8.0	8.5	5.5	6.6	5.6
20	5.8	9.4	6.4	33	35	7.2	5.5	7.8	8.4	5.3	5.2	5.7
21	7.4	8.8	6.5	34	35	6.6	5.7	7.5	8.2	5.4	5.2	5.8
22	6.6	6.8	6.8	35	34	7.1	5.1	7.0	8.4	5.5	5.4	5.6
23	5.5	6.9	6.7	29	34	6.9	5.3	6.6	7.0	6.4	5.4	5.8
24	5.4	7.0	6.4	26	34	6.7	5.3	6.1	7.0	7.7	5.4	5.8
25	4.7	7.1	6.6	24	34	7.1	4.7	5.6	7.1	13	5.7	5.3
26	5.6	7.0	14	26	34	7.0	5.1	5.4	6.9	21	5.8	5.6
27	5.3	7.0	19	27	34	7.9	4.9	5.2	6.8	9.8	5.7	4.8
28	4.9	7.5	19	23	33	7.9	5.1	5.4	6.9	8.9	6.0	5.8
29	5.7	7.1	19	12	33	7.9	5.5	5.2	7.9	8.4	5.8	5.8
30	8.3	7.6	19	8.2	---	7.5	8.1	4.6	8.2	8.3	6.8	5.8
31	6.4	---	20	7.4	---	6.8	---	4.7	---	8.0	9.1	---
TOTAL	179.4	208.3	279.1	879.6	886	526.6	185.4	197.8	185.5	229.1	210.4	177.6
MEAN	5.79	6.94	9.00	28.4	30.6	17.0	6.18	6.38	6.18	7.39	6.79	5.92
MAX	8.3	9.4	20	36	36	36	8.1	11	8.5	21	9.1	9.9
MIN	4.7	5.7	5.8	7.4	14	6.6	4.7	4.6	4.4	5.1	5.2	4.8
AC-FT	356	413	554	1740	1760	1040	368	392	368	454	417	352

CAL YR 1979 TOTAL 3764.7 MEAN 10.3 MAX 57 MIN 2.9 AC-FT 7470
WTR YR 1980 TOTAL 4144.8 MEAN 11.3 MAX 36 MIN 4.4 AC-FT 8220

ARKANSAS RIVER BASIN

07081200 ARKANSAS RIVER NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'26", long 106°20'35", in NW¼NW¼ sec.21, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, 500 ft (150 m) downstream from confluence of East Fork Arkansas River and Tennessee Creek, 0.5 mi (0.8 km) downstream from highway bridge, and 2.8 mi (4.5 km) west of Leadville.

DRAINAGE AREA.--97.2 mi^2 (251.7 km^2).

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,730 ft (2,966 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Transmountain diversion from Colorado River basin to Arkansas River basin enters above this station (see elsewhere in this report). Small diversions upstream for irrigation and municipal use. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--13 years, 72.5 ft^3/s (2.053 m^3/s), 52,530 acre-ft/yr (64.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,030 ft^3/s (29.2 m^3/s) June 11, 12, 1980, gage height, 4.21 ft (1.283 m); minimum daily, 7.0 ft^3/s (0.20 m^3/s) Feb. 3-20, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,030 ft^3/s (29.2 m^3/s) at 0500 June 11 and at 0300 June 12, gage height, 4.21 ft (1.283 m); minimum daily, 12 ft^3/s (0.34 m^3/s) many days during winter.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	27	12	12	14	15	14	56	450	283	62	30
2	28	26	12	12	15	15	14	56	457	277	60	27
3	27	23	13	13	15	15	14	56	512	261	59	22
4	28	21	15	14	15	15	14	58	598	231	54	23
5	27	19	15	15	15	15	14	65	693	199	49	23
6	27	18	15	15	15	15	14	80	775	180	48	24
7	27	19	14	15	15	15	14	95	722	169	46	23
8	25	20	13	15	14	14	14	105	751	172	47	23
9	24	21	12	14	13	14	14	110	889	165	47	39
10	24	22	12	13	13	14	14	115	933	158	42	36
11	24	27	12	13	13	14	14	115	960	158	37	38
12	24	29	12	13	14	14	14	110	960	163	39	35
13	23	31	12	15	15	14	15	110	928	148	42	34
14	22	32	12	16	16	14	15	110	895	140	40	29
15	23	31	12	16	17	14	16	109	808	121	51	25
16	24	31	12	16	17	14	16	108	684	107	48	27
17	26	31	12	14	17	14	17	105	632	104	41	30
18	27	27	13	13	17	14	19	91	642	103	36	27
19	28	23	14	13	16	14	22	102	656	100	32	24
20	27	20	14	12	16	14	28	126	637	96	33	25
21	30	17	14	12	16	14	31	169	591	87	29	27
22	32	14	14	12	16	14	35	248	555	82	30	24
23	28	13	14	13	16	14	36	381	525	79	28	24
24	31	12	14	14	16	14	36	474	502	77	29	24
25	31	12	14	14	16	14	35	434	455	87	35	24
26	30	12	14	14	16	14	35	376	441	80	38	24
27	29	12	13	14	16	14	35	284	414	72	35	26
28	28	12	12	13	16	14	36	313	367	66	32	24
29	28	12	12	13	15	14	45	402	297	59	31	23
30	26	12	12	13	---	14	53	365	278	64	32	22
31	28	---	12	13	---	14	---	427	---	62	32	---
TOTAL	833	626	403	424	445	441	693	5755	19007	4150	1264	806
MEAN	26.9	20.9	13.0	13.7	15.3	14.2	23.1	186	634	134	40.8	26.9
MAX	32	32	15	16	17	15	53	474	960	283	62	39
MIN	22	12	12	12	13	14	14	56	278	59	28	22
AC-FT	1650	1240	799	841	883	875	1370	11420	37700	8230	2510	1600

CAL YR 1979 TOTAL 35806 MEAN 98.1 MAX 808 MIN 12 AC-FT 71020
WTR YR 1980 TOTAL 34847 MEAN 95.2 MAX 960 MIN 12 AC-FT 69120

NOTE.--NO GAGE-HEIGHT RECORD NOV. 6 TO MAY 14.

07082400 TURQUOISE LAKE NEAR LEADVILLE, CO

LOCATION.--Lat 39°15'10", long 106°22'26", in SW¼NE¼ sec.19, T.9 S., R.80 W., Lake County, Hydrologic Unit 11020001, in control house of Sugar Loaf Dam on Lake Fork, 4.0 mi (6.4 km) west of Leadville and 4.6 mi (7.4 km) upstream from mouth.

DRAINAGE AREA.--28.1 mi^2 (72.8 km^2).

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Nonrecording gage read once daily. Datum of gage is 9,754.00 ft (2,973.019 m) National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir formed by earthfill dam completed in 1909, capacity, 17,400 acre-ft (21.5 hm^3). Enlargement of dam began Dec. 8, 1965, and closure was made Apr. 15, 1968. Enlarged capacity, 129,400 acre-ft (160 hm^3) at elevation 9,869.4 ft (3,008.19 m), crest of spillway. Dead storage, 2,770 acre-ft (3.42 hm^3) below elevation 9,765.90 ft (2,976.646 m), sill of lowest outlet. Figures given are total contents. Since Apr. 15, 1968, Turquoise Lake has been a regulatory reservoir for the Fryingpan-Arkansas project and stores water imported from the Colorado River basin through Charles H. Boustead Tunnel for irrigation, municipal water supply, and power development. It also stores water for industrial use, and water imported from the Colorado River basin through Busk-Ivanhoe tunnel for irrigation and through Homestake tunnel for municipal water supply.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES (at 0800 of following day) FOR PERIOD OF RECORD.--Maximum contents, 127,200 acre-ft (157 hm^3) July 10, 1980, elevation, 9,868.13 ft (3,007.806 m); minimum since appreciable storage was attained, 14,510 acre-ft (17.9 hm^3) Oct. 1, 1968, elevation, 9,782.85 ft (2,981.813 m).

EXTREMES (at 0800 of following day) FOR CURRENT YEAR.--Maximum contents, 127,200 acre-ft (157 hm^3) July 10, elevation, 9,868.13 ft (3,007.806 m); minimum, 74,960 acre-ft/yr (92.4 hm^3) May 7, elevation, 9,836.62 ft (2,998.202 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation	Contents (acre-feet)	Change in content (acre-feet)
Sept. 30	9,855.77	105,800	-
Oct. 31	9,853.92	102,640	-3,160
Nov. 30	9,848.43	93,560	-9,080
Dec. 31	9,847.03	91,290	-2,270
CAL YR 1979			+17,430
Jan. 31	9,848.11	93,040	+1,750
Feb. 29	9,848.99	94,480	+1,440
Mar. 31	9,840.31	80,620	-13,860
Apr. 30	9,837.19	75,820	-4,800
May 31	9,840.66	81,160	+5,340
June 30	9,864.85	121,370	+40,210
July 31	9,863.24	118,560	-2,810
Aug. 31	9,854.26	103,210	-15,350
Sept. 30	9,846.34	90,170	-13,040
WTR YR 1980			-15,630

07083000 HALFMOON CREEK NEAR MALTA, CO

(Hydrologic bench-mark station)

LOCATION.--Lat 39°10'20", long 106°23'19", in SE¼SE¼ sec.13, T.10 S., R.81 W., Lake County, Hydrologic Unit 11020001, on right bank 1.4 mi (2.3 km) upstream from culvert, 3.3 mi (5.3 km) upstream from mouth, and 4.3 mi (6.9 km) southwest of Malta.

DRAINAGE AREA.--23.6 mi^2 (61.1 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1946 to current year.

REVISED RECORDS.--WSP 2121: Drainage area at site 1.4 mi (2.3 km) downstream. WRD Colo. 1968: 1967(M). WDR CO-79-1: 1976(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 9,830 ft (2,996 m), from topographic map. Prior to Oct. 19, 1966, at sites 1.4 mi (2.3 km) downstream at different datums.

REMARKS.--Records good except those for winter period, which are fair and those for periods of no gage-height record, which are poor. No regulation or diversion above station.

AVERAGE DISCHARGE.--34 years, 28.4 ft^3/s (0.804 m^3/s) 20,580 acre-ft/yr (25.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 450 ft^3/s (12.7 m^3/s) June 30, 1957, gage height, 3.48 ft (1.061 m), site and datum then in use; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft^3/s (4.2 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
a	unknown	*323	9.15	3.42	1.042	June 26	2400	280	7.93	3.34	1.018
June 18	2400	275	7.79	3.33	1.015						

a Sometime during period June 7-18, from recorded range in stage.
Minimum daily discharge, 2.0 ft^3/s (0.057 m^3/s) Apr. 9.

REVISIONS.--The maximum discharge for water year 1954 has been revised to 104 ft^3/s (2.95 m^3/s) May 20, 1954, gage height, 2.68 ft (0.817 m), this figure supersedes that published in WSP 1681.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9	5.1	6.0	5.6	4.6	4.9	3.2	6.7	83	167	33	14
2	9.9	6.1	6.1	5.6	4.7	4.8	3.2	6.1	89	169	32	13
3	9.5	6.1	6.1	5.5	4.9	4.9	3.2	7.2	101	168	31	12
4	9.2	6.7	6.1	5.6	5.0	5.0	3.3	10	119	152	29	12
5	8.8	6.4	6.0	5.5	5.2	5.4	3.3	14	137	135	28	12
6	8.8	6.7	6.0	5.5	5.4	5.2	2.7	18	146	120	26	11
7	8.5	6.4	6.1	5.5	5.6	5.0	2.6	19	190	117	25	11
8	8.5	6.4	6.1	5.5	5.4	5.0	2.8	19	270	119	24	15
9	8.5	6.4	6.0	5.1	5.1	4.9	2.0	18	320	112	24	23
10	8.2	6.1	5.6	4.9	4.9	4.7	2.2	18	270	106	23	24
11	7.8	6.5	6.0	5.1	5.0	5.0	2.4	17	250	103	23	24
12	7.8	5.9	5.5	5.5	5.0	5.2	2.4	15	270	97	22	19
13	7.5	6.1	5.5	5.6	5.2	5.0	2.4	14	280	98	21	16
14	7.5	5.7	5.5	5.6	5.4	4.9	2.4	13	300	86	21	14
15	7.8	5.9	5.5	5.5	5.4	4.9	2.9	13	310	79	21	14
16	7.8	6.5	5.5	5.6	5.4	5.4	3.3	16	270	74	20	13
17	7.8	5.5	5.5	5.5	5.2	5.2	3.7	19	240	69	20	12
18	7.5	6.0	5.1	5.4	5.2	5.0	4.0	21	219	67	19	12
19	7.8	5.5	5.1	5.2	5.4	5.2	5.0	24	223	66	19	12
20	7.8	5.5	5.1	4.6	5.6	5.4	6.0	38	206	64	19	12
21	8.2	6.0	4.9	4.9	5.2	5.1	7.6	50	197	61	18	11
22	8.5	5.6	4.9	4.9	5.0	4.8	7.5	60	197	61	17	11
23	7.2	5.5	5.1	4.5	5.0	4.5	6.1	75	206	58	17	11
24	7.2	5.5	5.5	4.3	5.0	4.5	5.1	90	206	54	18	11
25	6.9	5.6	5.5	4.3	5.0	4.4	6.1	74	206	54	21	10
26	6.9	6.0	5.5	4.6	5.4	4.0	4.9	68	212	51	18	9.9
27	7.2	6.0	5.5	4.6	5.5	3.8	5.1	60	212	47	17	9.5
28	6.7	5.6	5.5	4.5	4.9	3.6	6.1	62	182	40	15	9.5
29	6.7	6.0	6.0	4.5	4.6	3.5	6.9	68	169	38	14	9.2
30	6.4	6.0	6.7	4.4	---	3.3	6.9	65	169	36	15	8.8
31	4.6	---	5.6	4.5	---	3.2	---	80	---	35	14	---
TOTAL	243.4	179.3	175.1	157.9	149.2	145.7	125.3	1078.0	6249	2703	664	395.9
MEAN	7.85	5.98	5.65	5.09	5.14	4.70	4.18	34.8	208	87.2	21.4	13.2
MAX	9.9	6.7	6.7	5.6	5.6	5.4	7.6	90	320	169	33	24
MIN	4.6	5.1	4.9	4.3	4.6	3.2	2.0	6.1	83	35	14	8.8
AC-FT	483	356	347	313	296	289	249	2140	12390	5360	1320	785

	TOTAL	MEAN	MAX	MIN	AC-FT
CAL YR 1979	12202.0	33.4	226	1.8	24200
WTR YR 1980	12265.8	33.5	320	2.0	24330

NOTE.--NO GAGE-HEIGHT RECORD JAN. 16 TO FEB. 26, JUNE 7-17.

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued
(Hydrologic bench-mark station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1966 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: May 1967 to current year.

INSTRUMENTATION.--Water temperature recorder since May 23, 1967.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 26.0°C Aug. 16, 1980; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 26.0°C Aug. 16; minimum, 0.0°C on many days during October to June.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
OCT										
16...	1030	8.0	86	6.7	5.0	8.7	<1	K1	K2	38
NOV										
14...	1615	8.3	88	7.1	.0	12.2	<1	<1	<1	41
DEC										
11...	1130	5.9	89	6.8	.0	--	--	K1	K2	40
FEB										
27...	1545	5.5	93	7.4	.0	13.5	<1	<1	K15	41
APR										
02...	1345	3.2	92	7.4	.0	--	K9	K4	--	45
MAY										
13...	1400	14	81	7.2	5.0	--	<1	K1	27	40
JUN										
18...	1530	178	47	7.2	9.0	--	<2	<2	K2	21
JUL										
21...	1610	53	59	6.8	15.5	6.7	<1	<1	48	27
AUG										
19...	1530	20	79	7.7	12.5	8.4	K4	K5	K2	34
SEP										
19...	0900	12	89	7.4	6.5	8.4	K5	K4	K15	39

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT										
16...	8	9.4	3.5	1.6	.1	.7	30	10	.3	.1
NOV										
14...	2	10	3.8	1.7	.1	.6	39	11	.3	.1
DEC										
11...	0	10	3.7	1.9	.1	.6	40	3.5	.4	.1
FEB										
27...	2	10	4.0	1.8	.1	.6	39	6.7	.2	.1
APR										
02...	6	11	4.2	2.0	.1	.5	39	7.2	.1	.3
MAY										
13...	12	9.4	3.9	1.4	.1	.6	28	12	1.3	.1
JUN										
18...	0	5.3	1.8	.7	.1	.4	22	2.2	.1	.1
JUL										
21...	11	7.0	2.4	1.1	.1	.5	16	5.9	.2	.2
AUG										
19...	1	8.8	2.8	1.3	.1	.6	33	4.2	5.2	.1
SEP										
19...	1	10	3.3	1.3	.1	.7	38	.6	.2	.1

K BASED ON NON-IDEAL COLONY COUNT.

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
OCT									
16...	5.7	53.0	50.0	.07	1.15	.10	.08	.00	--
NOV									
14...	6.3	70.0	58.0	.10	1.57	.16	.15	.01	.00
DEC									
11...	6.5	60.0	55.0	.08	.96	.21	.13	.00	.00
FEB									
27...	6.9	59.0	54.0	.08	.88	.14	.14	.00	.00
APR									
02...	7.6	54.0	57.0	.07	.47	.14	.15	.01	.01
MAY									
13...	5.7	55.0	52.0	.07	2.08	.09	.09	.01	.01
JUN									
18...	3.7	34.0	28.0	.05	16.3	--	.09	.00	.01
JUL									
21...	4.3	38.0	32.0	.05	5.44	.13	.09	.01	.01
AUG									
19...	5.4	37.0	48.0	.05	2.00	.05	.05	.02	.00
SEP									
19...	5.6	52.0	45.0	.07	1.68	.02	.03	.00	.00

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)
DEC											
11...	1130	0	1	300	20	<1	0	<1	12	0	<3
JUN											
18...	1530	0	0	0	20	<1	0	<1	0	--	<3

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
DEC											
11...	2	<10	90	46	3	<10	<4	10	4	.0	.0
JUN											
18...	6	<10	400	38	5	<10	<4	10	4	.0	.0

DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
DEC										
11...	<10	0	0	0	0	80	<6.0	20	16	.00
JUN										
18...	<10	0	0	0	0	39	<6.0	30	10	.00

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)
DEC										
11...	1130	.5	<.3	.7	<.4	.8	<.4	.8	<.4	.05

DATE	URANIUM DISSOLVED, EXTRACTION (UG/L)	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)
DEC										
11...	.08	.0	.00	.00	.06	.00	.00	.00	.00	.00

DATE	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHOXYCHLOR, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
DEC									
11...	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	PERTHANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
DEC									
11...	.00	.00	.00	.00	0	.00	.00	.00	.00

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT				
16...	1025	8.0	5	.11
NOV				
14...	1700	8.3	1	.02
DEC				
11...	1135	4.9	0	.00
FEB				
27...	1455	5.5	3	.04
APR				
02...	1351	3.2	9	.09

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
MAY				
13...	1308	14	2	.08
JUN				
18...	1615	178	20	9.6
JUL				
22...	0902	59	18	2.9
AUG				
19...	1700	19	4	.21

07083000 HALFMOON CREEK NEAR MALTA, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.5	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2	10.0	3.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
3	11.5	4.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4	11.0	2.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
5	11.0	2.5	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6	12.0	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7	12.0	3.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
8	11.0	2.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
9	10.5	3.5	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
10	10.5	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11	11.0	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12	10.5	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13	10.5	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14	7.5	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15	9.5	1.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16	9.5	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17	9.0	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18	10.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19	9.5	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20	9.5	1.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
21	3.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
22	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
23	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
25	8.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
26	8.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
27	7.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	5.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
29	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
30	.5	.0	.0	.0	.0	.0	.0	.0	---	---	.0	.0
31	.5	.0	---	---	.0	.0	.0	.0	---	---	.0	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	.0	.0	5.5	.0	10.0	.0	10.0	1.5	16.5	8.0	15.0	4.5
2	.0	.0	7.0	1.0	10.0	.5	12.5	.5	16.5	8.5	15.5	4.5
3	.0	.0	8.5	1.5	10.5	1.0	13.0	.0	16.5	7.5	15.5	5.0
4	.0	.0	9.5	1.5	10.5	1.0	12.5	.0	17.0	7.0	14.5	5.5
5	.0	.0	7.0	1.0	10.0	1.0	13.0	.5	17.5	7.0	13.0	6.0
6	.5	.0	8.5	1.5	9.0	1.0	13.0	.0	17.5	7.5	15.5	6.0
7	.0	.0	6.0	1.5	9.0	1.0	10.5	.0	15.5	8.0	12.5	7.0
8	.0	.0	5.0	1.0	10.0	2.5	13.0	.5	14.5	9.0	11.5	7.0
9	.0	.0	9.0	.5	10.0	2.0	12.0	.0	17.5	8.0	10.0	8.0
10	.0	.0	11.0	1.5	9.5	2.0	12.0	1.5	18.0	7.5	10.5	7.5
11	.0	.0	5.5	2.0	9.5	.5	12.0	1.0	21.5	6.5	13.0	5.0
12	.0	.0	6.0	.0	9.5	2.0	14.5	1.0	18.5	9.0	11.0	6.5
13	.0	.0	10.5	3.0	10.0	2.0	9.5	6.5	18.5	6.5	12.5	5.0
14	.5	.0	7.5	.0	9.5	2.0	12.5	6.0	22.0	8.0	12.5	5.0
15	1.0	.0	5.0	.5	9.5	1.5	15.0	5.0	25.5	9.0	13.5	4.5
16	2.0	.0	7.0	1.0	9.5	2.0	15.0	5.5	26.0	5.5	13.0	6.0
17	1.5	.0	8.5	1.0	10.0	2.0	16.0	6.0	16.0	5.0	13.0	4.0
18	3.0	.0	13.0	.5	10.0	2.5	15.0	6.0	16.5	5.0	13.5	8.5
19	4.0	.0	12.0	2.0	10.5	2.5	16.0	7.0	15.5	7.0	14.0	6.0
20	4.5	.0	10.5	2.0	9.5	2.5	15.5	6.5	15.0	5.5	14.0	6.5
21	5.5	.5	12.5	1.0	10.5	2.5	16.0	6.5	15.5	4.5	12.5	4.0
22	5.5	.0	11.5	1.0	11.0	2.5	14.0	7.5	15.0	5.0	11.0	3.5
23	3.0	.0	9.5	.5	11.5	2.5	13.5	7.0	13.0	8.0	11.5	2.0
24	1.5	.0	8.5	.0	11.5	3.5	14.0	6.5	12.0	8.0	11.0	2.5
25	6.5	.0	9.0	.5	12.0	3.0	13.5	7.0	14.5	8.0	12.0	2.0
26	7.0	.0	8.5	.0	11.0	3.5	16.0	6.5	15.5	6.5	11.0	4.0
27	9.0	.0	9.0	.0	12.0	3.5	16.0	6.5	14.0	6.0	11.0	3.0
28	9.0	.0	10.5	.0	12.0	3.0	16.0	6.5	15.5	5.5	12.0	3.0
29	6.5	1.0	9.5	.5	12.5	3.5	16.0	7.0	15.5	6.0	12.0	3.0
30	5.0	.0	11.0	.0	10.0	4.5	15.5	8.0	13.0	5.5	12.5	3.0
31	---	---	10.5	.5	---	---	15.5	8.0	14.0	5.0	---	---

07083700 ARKANSAS RIVER NEAR MALTA, CO

LOCATION.--Lat 39°10'08", long 106°19'23", in NE¼NW¼ sec.22, T.10 S., R.80 W., Lake County, Hydrologic Unit 11020001, on left bank 40 ft (12 m) downstream and 30 ft (9 m) shoreward of left end of bridge on U.S. Highway 24, 3.5 mi (5.6 km) downstream from Lake Fork, 4.4 mi (7.1 km) southeast of Malta, and 5.7 mi (9.2 km) south of Leadville.

DRAINAGE AREA.--228 mi² (590 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to September 1967, October 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 9,300 ft (2,835 m), from topographic map.

REMARKS.--Records good except those for period June 4-24, which are fair. Flow regulated by Turquoise Lake (station 07082400) on Lake Fork 8 mi (13 km) upstream. Transmountain diversions from Colorado River basin to Arkansas River basin enter upstream from this station (see elsewhere in this report). Diversions for irrigation of about 5,600 acres (22.7 km²) above station.

AVERAGE DISCHARGE.--6 years (water years 1975-80), 262 ft³/s (7.420 m³/s), 189,800 acre-ft/yr (234 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 2,200 ft³/s (62.3 m³/s) May 12, 1980, gage height, 5.37 ft (1.637 m) from rating curve extended above 1900 ft³/s (53.8 m³/s); minimum daily, 40 ft³/s (1.13 m³/s) Oct. 11, 12, 16-20, 1974, Dec. 7-12, Dec. 25, 1976, to Jan. 15, 1977, Jan. 25 to Feb. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 2,200 ft³/s (62.3 m³/s) at 1100 May 12, gage height, 5.37 ft (1.637 m); minimum daily, 85 ft³/s (2.41 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	90	237	149	165	185	237	597	590	1030	475	254
2	85	93	244	148	167	186	230	601	629	1040	516	243
3	100	91	195	143	169	185	230	643	700	945	519	263
4	100	91	129	129	169	183	230	682	1070	693	517	329
5	97	131	125	115	171	183	229	689	1340	611	512	323
6	94	209	127	117	172	181	230	744	1450	733	470	334
7	96	215	127	123	181	179	229	729	1500	699	446	350
8	98	212	122	138	181	179	223	330	1580	659	404	355
9	98	208	123	121	178	179	232	230	1720	589	411	396
10	98	209	153	119	181	181	265	230	1830	616	404	415
11	101	211	176	117	181	188	210	220	1950	750	390	416
12	105	213	177	121	181	190	102	220	2040	812	364	396
13	104	209	179	120	177	198	102	230	1900	777	352	381
14	103	211	179	123	179	244	105	243	1600	737	339	371
15	103	206	175	135	179	256	109	258	1300	635	351	357
16	104	221	173	146	179	250	128	275	1250	589	352	305
17	114	245	173	147	179	311	163	280	1250	545	338	234
18	118	245	171	140	179	527	168	236	1300	541	315	240
19	133	246	175	132	179	520	174	234	1300	527	295	252
20	127	242	171	129	179	520	186	246	1250	508	282	248
21	135	246	167	129	179	513	201	420	1200	484	278	248
22	127	253	164	129	176	505	290	749	1200	481	269	222
23	131	246	165	129	182	498	547	883	1150	504	270	205
24	129	242	171	157	182	506	574	939	1130	504	279	200
25	125	240	171	161	181	506	556	888	1140	506	296	205
26	115	248	171	157	183	513	563	846	1160	489	301	210
27	111	256	161	157	181	519	578	799	1160	468	267	208
28	109	248	144	159	183	531	612	842	1100	454	263	208
29	109	244	143	159	185	532	623	771	1030	418	260	202
30	111	244	143	159	---	527	631	527	1020	442	261	200
31	105	---	141	162	---	406	---	577	---	430	262	---
TOTAL	3391	6265	5072	4270	5158	10581	8957	16158	38839	19216	11058	8570
MEAN	109	209	164	138	178	341	299	521	1295	620	357	286
MAX	135	256	244	162	185	532	631	939	2040	1040	519	416
MIN	85	90	122	115	165	179	102	220	590	418	260	200
AC-FT	6730	12430	10060	8470	10230	20990	17770	32050	77040	38110	21930	17000

CAL YR 1979 TOTAL 121889 MEAN 334 MAX 1470 MIN 49 AC-FT 241800
WTR YR 1980 TOTAL 137535 MEAN 376 MAX 2040 MIN 85 AC-FT 272800

07083700 ARKANSAS RIVER NEAR MALTA, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 18...	1215	126	158	6.8	8.0	9.4	65	32
NOV 15...	1135	191	78	6.6	5.0	9.9	32	12
DEC 12...	1315	186	95	6.3	.0	10.5	37	12
JAN 16...	1130	152	111	7.7	1.0	14.5	46	21
FEB 21...	0915	180	103	6.3	1.0	11.2	43	18
APR 01...	1430	254	100	6.4	4.5	--	42	22
MAY 14...	1515	226	148	8.3	8.0	9.0	62	37
JUL 23...	0845	516	92	7.0	7.0	8.4	39	13
AUG 20...	1030	286	108	7.3	8.0	9.5	49	22
SEP 18...	1230	246	100	7.3	11.0	8.5	39	18

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 18...	16	6.2	3.2	.2	.8	33	34	1.7	.2
NOV 15...	8.5	2.7	2.2	.2	.5	20	16	1.0	.1
DEC 12...	9.8	3.0	2.4	.2	.6	25	17	1.1	.2
JAN 16...	12	3.8	2.6	.2	.6	25	22	1.2	.2
FEB 21...	11	3.8	2.1	.1	.6	25	19	.9	.2
APR 01...	11	3.6	2.3	.2	.4	20	21	.6	.2
MAY 14...	15	6.0	2.6	.1	1.0	25	34	1.4	.1
JUL 23...	10	3.5	1.8	.1	.6	26	16	.9	.2
AUG 20...	13	3.9	1.9	.1	.6	27	20	7.6	.3
SEP 18...	10	3.5	1.8	.1	.6	21	18	.9	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT 18...	7.3	90.0	.12	30.6	.12	.01	40	340
NOV 15...	4.6	48.0	.07	24.8	.09	.00	110	90
DEC 12...	4.8	55.0	.07	27.6	.10	.01	100	170
JAN 16...	5.5	64.0	.09	26.3	.09	.00	100	240
FEB 21...	5.1	58.0	.08	28.2	.10	.01	130	180
APR 01...	4.9	57.0	.08	39.1	.10	.01	110	200
MAY 14...	8.0	84.0	.11	51.3	.10	.01	140	530
JUL 23...	5.4	55.0	.07	76.6	.05	.01	200	230
AUG 20...	5.7	70.0	.10	54.1	.05	.08	140	260
SEP 18...	5.6	54.0	.07	35.9	.00	.01	120	210

07084500 LAKE CREEK ABOVE TWIN LAKES RESERVOIR, CO

LOCATION.--Lat 39°03'47", long 106°24'26", Lake County, Hydrologic Unit 11020001, on left bank 1.2 mi (1.9 km) upstream from water line of Twin Lakes Reservoir at elevation 9,200 ft (2,804.2 m) and 1.9 mi (3.1 km) southwest of village of Twin Lakes.

DRAINAGE AREA.--75 mi² (194 km²).

PERIOD OF RECORD.--April 1946 to September 1962, October 1963 to current year. Montnly discharge only for some periods, published in WSP 1241, 1311, and 1731.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1711: 1951(M), 1952.

GAGE.--Water-stage recorder. Altitude of gage is 9,310 ft (2,838 m), from topographic map. Prior to May 20, 1950, at site 190 ft (58 m) downstream at different datum. May 20, 1950, to Apr. 7, 1953, at site 10 ft (3 m) upstream at present datum.

REMARKS.--Records fair except those for winter period, which are poor. No diversion above station. Records include inflow from Roaring Fork River in Colorado River basin through Twin Lakes tunnel (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--33 years (water years 1947-62, 1964-80), 168 ft³/s (4.758 m³/s), 121,700 acre-ft/yr (150 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,270 ft³/s (92.6 m³/s) June 15, 1978, gage height, 5.08 ft (1.548 m), from rating curve extended above 1,400 ft³/s (40 m³/s); minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,900 ft³/s (53.8 m³/s) at 1800 June 10, gage height, 4.37 ft (1.332 m); minimum daily, 8.5 ft³/s (0.24 m³/s) Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	14	15	13	10	10	10	29	521	815	85	38
2	28	15	16	13	12	10	11	28	545	800	84	37
3	26	15	18	12	12	11	11	32	624	770	81	34
4	24	17	17	12	13	11	11	40	856	666	79	33
5	24	17	18	12	12	11	12	49	1080	571	74	32
6	24	15	16	13	12	11	13	58	1180	485	71	32
7	23	16	16	12	12	11	11	67	1100	443	69	32
8	22	17	17	11	10	11	9.5	74	1180	437	68	33
9	22	17	16	11	8.5	11	10	107	1410	455	66	46
10	22	16	16	11	9.5	10	12	81	1650	455	64	58
11	21	16	16	9.5	9.5	10	11	86	1660	449	60	71
12	20	16	14	9.5	9.5	10	10	73	1520	385	58	61
13	20	16	14	11	10	10	10	56	1510	330	57	55
14	20	15	15	12	10	10	12	58	1400	306	60	50
15	20	16	16	13	11	11	14	58	1200	260	75	46
16	21	17	16	11	11	11	15	56	1100	215	69	44
17	19	18	16	11	11	9.5	14	57	1080	199	63	40
18	21	19	16	11	11	10	15	56	1190	184	57	38
19	22	17	16	11	11	12	17	62	1100	174	55	37
20	22	16	15	10	10	12	19	82	862	165	52	36
21	24	15	15	10	10	11	21	138	808	152	50	34
22	18	14	14	10	9.5	12	23	273	815	145	48	33
23	22	15	14	10	9.5	11	22	415	878	138	49	32
24	25	15	14	11	9.5	11	20	521	878	128	51	32
25	22	17	14	11	9.0	11	16	461	830	124	62	31
26	23	17	14	11	9.5	10	17	370	846	115	55	33
27	21	16	14	11	9.5	10	21	334	815	105	51	34
28	18	15	13	11	9.5	11	26	366	702	98	46	32
29	21	14	12	11	9.5	11	30	437	652	93	44	32
30	18	14	11	11	---	11	33	443	815	91	42	31
31	14	---	12	9.5	---	12	---	503	---	89	42	---
TOTAL	675	477	466	345.5	300.5	333.5	476.5	5470	30807	9842	1887	1177
MEAN	21.8	15.9	15.0	11.1	10.4	10.8	15.9	176	1027	317	60.9	39.2
MAX	28	19	18	13	13	12	33	521	1660	815	85	71
MIN	14	14	11	9.5	8.5	9.5	9.5	28	521	89	42	31
AC-FT	1340	946	924	685	596	661	945	10850	61110	19520	3740	2330

CAL YR 1979 TOTAL 64124.5 MEAN 176 MAX 1830 MIN 9.5 AC-FT 127200
WTR YR 1980 TOTAL 52257.0 MEAN 143 MAX 1660 MIN 8.5 AC-FT 103700

NOTE.--NO GAGE-HEIGHT RECORD OCT. 31 TO APR. 30.

07086000 ARKANSAS RIVER AT GRANITE, CO

LOCATION.--Lat 39°02'34", long 106°15'55", in SE¼SW¼ sec.31, T.11 S., R.79 W., Chaffee County, Hydrologic Unit 11020001, on right bank at Granite, 100 ft (30 m) east of U.S. Highway 24, 100 ft (30 m) downstream from county bridge, and 200 ft (61 m) upstream from Cache Creek.

DRAINAGE AREA.--427 mi^2 (1,106 km^2).

PERIOD OF RECORD.--April to October 1895, May to December 1897, August to September 1898, March to October 1899, April to May 1902 (gage heights and discharge measurements only in 1895, 1899, and 1901), April 1910 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1711: 1952, 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 9,914.86 ft (2,717.249 km) National Geodetic Vertical Datum of 1929, supplementary adjustment of 1960. Prior to Apr. 6, 1910, nonrecording gages near present site at different datums. Apr. 6, 1910, to Oct. 25, 1917, water-stage recorder or nonrecording gage at site 832 ft (254 m) upstream at different datum. Oct. 26, 1917, to Oct. 26, 1960, water-stage recorder at site 168 ft (51 m) downstream at present datum.

REMARKS.--Records good. Diversions above station for irrigation of about 6,700 acres (27.1 km^2). Turquoise Lake and Twin Lakes Reservoir, on tributaries above station, have a combined capacity of 182,700 acre-ft (225 hm^3). Transmountain diversions from Colorado River basin to Arkansas River basin enter above this station (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--70 years (water years 1911-80), 373 ft^3/s (10.56 m^3/s), 270,200 acre-ft/yr (333 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,360 ft^3/s (152 m^3/s) June 28, 1957, gage height, 7.20 ft (2.195 m); minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,560 ft^3/s (101 m^3/s) at 1100 June 13, gage height, 5.65 ft (1.722 m); minimum daily, 120 ft^3/s (3.40 m^3/s) Apr. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254	168	350	170	202	196	250	566	885	1880	759	325
2	229	173	350	165	205	193	247	545	957	1870	636	320
3	241	170	305	165	205	196	258	580	1060	1800	628	330
4	235	176	217	160	202	193	278	628	1470	1500	604	402
5	235	193	211	155	202	193	270	652	1930	1420	559	402
6	205	295	214	152	205	193	250	858	2090	1520	531	414
7	179	310	208	170	208	193	247	1100	2100	1380	705	414
8	176	310	205	190	208	196	244	984	2120	1060	786	420
9	176	305	202	173	211	195	250	705	2290	849	804	468
10	176	305	205	173	214	195	278	669	2540	876	777	486
11	179	305	214	187	220	200	254	714	2970	1000	768	492
12	173	305	195	193	250	205	125	696	3410	1060	741	468
13	168	300	180	184	232	210	120	517	3210	1040	705	450
14	168	305	190	165	217	240	123	375	2920	1020	687	438
15	168	295	200	179	217	250	131	420	2760	921	714	432
16	170	305	214	182	199	270	140	492	2340	876	696	408
17	179	345	208	184	199	320	179	559	1800	858	669	330
18	182	345	202	176	199	470	193	498	2140	876	652	335
19	182	345	199	162	199	480	208	486	2220	858	444	350
20	190	345	199	162	199	480	232	438	2030	849	340	335
21	199	345	196	165	199	474	254	498	2290	840	335	320
22	187	350	196	170	199	474	278	822	2240	840	330	286
23	190	350	196	173	202	474	580	993	2210	840	345	258
24	193	345	196	196	202	468	580	1260	2140	849	365	258
25	190	345	196	205	205	474	531	1210	2100	885	390	258
26	182	350	193	190	196	474	545	1050	2040	858	396	262
27	179	345	193	193	196	492	545	948	2000	831	355	262
28	170	335	165	193	196	492	566	966	1900	813	340	262
29	179	340	165	193	196	492	596	993	1790	741	335	258
30	176	345	160	196	---	492	604	831	1840	723	365	258
31	176	---	165	205	---	438	---	867	---	696	350	---
TOTAL	5886	9050	6489	5526	5984	10312	9356	22920	63792	32429	17111	10701
MEAN	190	302	209	178	206	333	312	739	2126	1046	552	357
MAX	254	350	350	205	250	492	604	1260	3410	1880	804	492
MIN	168	168	160	152	196	193	120	375	885	696	330	258
AC-FT	11670	17950	12870	10960	11870	20450	18560	45460	126500	64320	33940	21230

CAL YR 1979 TOTAL 203342 MEAN 557 MAX 2460 MIN 70 AC-FT 403300
WTR YR 1980 TOTAL 199556 MEAN 545 MAX 3410 MIN 120 AC-FT 395800

TRANSMOUNTAIN DIVERSIONS FROM ARKANSAS RIVER BASIN TO SOUTH PLATTE RIVER BASIN IN COLORADO

07086300 Aurora-Homestake pipeline diverts water from Arkansas River in sec.8, T.12 S., R.79 W., to Elevenmile Canyon Reservoir (South Platte River) in sec.29, T.13 S., R.72 W., in South Platte River basin. Diversion began Aug. 24, 1967. Pipeline is equipped with a discharge recorder and Venturi meter. Records furnished by Colorado Division of water Resources. Diversions for water year October 1979 to September 1980 are given below.

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Water year
2,440	968	920	595	863	1,100	0	0	0	0	0	2,390	9,280

07086500 CLEAR CREEK ABOVE CLEAR CREEK RESERVOIR, CO

LOCATION.--Lat 39°01'05", long 106°16'38", in SE¼ sec.12, T.12 S., R.80 W., Chaffee County, Hydrologic Unit 11020001, on right bank 0.5 mi (0.8 km) upstream from water line of Clear Creek Reservoir at elevation 8,875 ft (2,705.1 m), 1.5 mi (2.4 km) downstream from unnamed tributary, and 1.9 mi (3.1 km) southwest of Granite.

DRAINAGE AREA.--67.1 mi^2 (173.8 km^2).

PERIOD OF RECORD.--May 1946 to current year. Monthly discharge only for some periods, published in WSP 1241 and 1311.

REVISED RECORDS.--WSP 2121: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 8,885 ft (2,708 m), from topographic map. May 7, 1946, to Apr. 20, 1954, water-stage recorder at site 133 ft (41 m) upstream at different datum. Apr. 21, 1954, to May 28, 1958, water-stage recorder 333 ft (101 m) upstream at different datum. Datum raised 2.19 ft (0.668 m) Apr. 21, 1954.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversions for irrigation of about 250 acres (1.01 km^2) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--34 years, 67.3 ft^3/s (1.906 m^3/s), 48,760 acre-ft/yr (60.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,300 ft^3/s (36.8 m^3/s) June 29, 1957; maximum gage height recorded, 4.34 ft (1.323 m) June 16, 1952, site and datum then in use; minimum discharge, not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 701 ft^3/s (19.9 m^3/s) at 0200 June 12, gage height, 2.59 ft (0.789 m), only peak above base of 400 ft^3/s (11 m^3/s); minimum daily, 10 ft^3/s (0.283 m^3/s) Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	16	19	19	14	13	11	28	200	394	76	31
2	25	17	20	19	15	13	12	25	207	384	75	30
3	25	17	21	18	15	14	12	28	236	362	72	29
4	25	19	20	18	16	14	12	34	291	333	68	28
5	24	19	21	18	15	14	13	42	339	303	63	28
6	24	18	19	19	15	14	14	49	359	276	59	28
7	24	19	19	17	15	14	13	56	352	265	56	31
8	24	20	20	15	12	14	12	59	362	273	58	32
9	24	20	19	15	10	14	13	54	454	256	55	44
10	23	19	19	15	12	12	14	51	552	242	52	55
11	23	19	19	13	12	12	13	50	620	242	49	81
12	23	19	18	13	12	12	12	48	602	215	47	59
13	23	19	18	14	13	12	12	44	566	200	46	50
14	23	18	19	15	13	12	13	45	539	190	51	45
15	23	19	20	16	14	13	14	48	518	173	62	42
16	22	20	20	15	14	12	15	46	482	160	62	39
17	18	21	20	15	14	12	14	49	470	151	58	37
18	22	22	20	15	14	12	16	45	498	146	54	36
19	22	20	20	15	14	13	18	50	502	137	52	33
20	22	19	19	14	13	13	20	59	482	129	50	32
21	27	18	19	14	13	12	21	78	466	117	48	32
22	22	17	18	14	12	13	22	113	474	111	46	32
23	23	19	18	14	12	12	20	162	502	106	48	32
24	25	19	18	15	12	12	18	192	498	106	50	32
25	23	21	18	15	12	12	15	171	494	113	56	31
26	22	21	18	15	12	11	16	153	490	104	52	31
27	22	20	18	15	12	11	20	142	470	93	47	31
28	18	19	17	15	12	12	24	151	432	88	43	30
29	20	18	16	15	13	12	27	169	394	83	38	29
30	18	18	15	15	---	12	30	169	404	88	37	29
31	16	---	17	13	---	13	---	188	---	81	35	---
TOTAL	700	570	582	478	382	391	486	2598	13255	5921	1665	1099
MEAN	22.6	19.0	18.8	15.4	13.2	12.6	16.2	83.8	442	191	53.7	36.6
MAX	27	22	21	19	16	14	30	192	620	394	76	81
MIN	16	16	15	13	10	11	11	25	200	81	35	28
AC-FT	1390	1130	1150	948	758	776	964	5150	26290	11740	3300	2180

CAL YR 1979 TOTAL 30830.5 MEAN 84.5 MAX 570 MIN 8.0 AC-FT 61150
WTR YR 1980 TOTAL 28127.0 MEAN 76.8 MAX 620 MIN 10 AC-FT 55790

NOTE.--NO GAGE-HEIGHT RECORD NOV. 4 TO APR. 23.

07087200 ARKANSAS RIVER AT BUENA VISTA, CO

LOCATION.--Lat 38°50'56", long 106°07'27", in NW¼NW¼ sec.9, T.14 S., R.78 W., Chaffee County, Hydrologic Unit 11020001, on right bank at northeast corner of Buena Vista city limits and 1.1 mi (1.8 km) upstream from Cottonwood Creek.

DRAINAGE AREA.--611 mi^2 (1,582 km^2).

PERIOD OF RECORD.--October 1964 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 7,920 ft (2,414 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs having a combined capacity of 193,900 acre-ft (239 hm^3), diversions above station for irrigation of 7,400 acres (29.9 km^2), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--16 years, 506 ft^3/s (14.33 m^3/s), 366,600 acre-ft/yr (452 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,950 ft^3/s (112 m^3/s) June 11, 1980, gage height, 6.55 ft (1.996 m); minimum daily, 57 ft^3/s (1.61 m^3/s) Jan. 27, 28, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,950 ft^3/s (112 m^3/s) at 1800 June 11, gage height, 6.55 ft (1.996 m); minimum daily, 97 ft^3/s (2.75 m^3/s) Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	132	306	140	143	151	289	585	1280	2480	740	334
2	165	141	328	140	151	147	286	555	1150	2460	700	320
3	172	125	324	145	153	153	282	580	1210	2350	695	317
4	170	127	182	140	153	151	314	640	1470	1790	675	396
5	170	132	170	145	151	151	314	680	1980	1680	635	392
6	157	215	168	145	155	153	286	795	2190	1880	610	408
7	125	254	163	136	157	153	282	1100	2320	1960	720	412
8	122	257	155	170	153	151	269	1040	2400	1800	790	412
9	124	255	155	140	155	151	257	745	2600	1590	815	476
10	125	250	157	141	159	149	269	705	2890	1480	795	492
11	127	250	175	127	159	151	269	730	3350	1550	765	508
12	127	245	165	138	210	155	124	725	3780	1630	715	476
13	118	240	165	149	239	149	100	615	3640	1550	680	452
14	118	240	178	145	198	185	97	436	3350	1440	680	444
15	120	235	180	159	182	212	107	468	3180	1210	710	448
16	117	245	180	168	175	210	122	512	2920	1140	685	484
17	129	270	182	172	168	208	136	595	2410	1090	665	388
18	132	280	182	170	170	392	161	528	2670	1040	650	380
19	129	285	172	161	155	408	180	500	2850	942	504	400
20	120	280	165	170	151	404	200	480	2610	948	356	384
21	149	275	168	163	147	404	242	468	2820	918	352	359
22	138	280	165	141	147	404	272	790	2800	906	342	334
23	141	280	165	145	147	400	508	954	2790	894	342	310
24	147	285	170	157	151	400	550	1260	2770	888	366	306
25	138	290	175	180	147	400	492	1220	2670	918	392	303
26	131	295	175	172	151	400	508	1140	2690	888	400	310
27	132	290	180	170	155	424	508	1070	2670	852	356	306
28	129	290	170	168	151	424	532	1110	2560	852	342	292
29	136	296	149	157	155	420	575	1240	2430	815	331	269
30	129	296	149	149	---	420	590	1350	2440	755	352	263
31	131	---	143	161	---	452	---	1320	---	750	359	---
TOTAL	4266	7335	5661	4764	4688	8532	9121	24936	76890	41446	17519	11375
MEAN	138	245	183	154	162	275	304	804	2563	1337	565	379
MAX	198	296	328	180	239	452	590	1350	3780	2480	815	508
MIN	117	125	143	127	143	147	97	436	1150	750	331	263
AC-FT	8460	14550	11230	9450	9300	16920	18090	49460	152500	82210	34750	22560

CAL YR 1979 TOTAL 222345 MEAN 609 MAX 3050 MIN 60 AC-FT 441000
WTR YR 1980 TOTAL 216533 MEAN 592 MAX 3780 MIN 97 AC-FT 429500

07089000 COTTONWOOD CREEK BELOW HOT SPRINGS, NEAR BUENA VISTA, CO

LOCATION.--Lat 38°48'46", long 106°13'18", in SE¼SE¼ sec.21, T.14 S., R.79 W., Chaffee County, Hydrologic Unit 11020001, on left bank 0.2 mi (0.3 km) downstream from Cottonwood Hot Springs, 0.9 mi (1.4 km) downstream from confluence of Middle Cottonwood and South Cottonwood Creeks, 2.9 mi (4.7 km) upstream from North Cottonwood Creek, and 5.5 mi (8.8 km) southwest of Buena Vista.

DRAINAGE AREA.--65.0 mi² (168 km²).

PERIOD OF RECORD.--October 1910 to September 1923, August 1949 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1177: 1915, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 8,532 ft (2,600.6 m), from river-profile survey. Prior to Oct. 1, 1923, nonrecording gage near present site at different datum.

REMARKS.--Records good. Several small diversions above station for irrigation. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--44 years (water years 1911-23, 1950-80), 56.0 ft³/s (1.586 m³/s), 40,570 acre-ft/yr (50.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft³/s (33.4 m³/s) July 1, 1957, gage height, 4.52 ft (1.378 m), from floodmarks, from rating curve extended above 690 ft³/s (20 m³/s); minimum observed, 10 ft³/s (0.28 m³/s) Mar. 20-23, 25, Apr. 9, 19, 1914.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft³/s (8.5 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 13	0030	*672	19.0	3.33	1.015	June 17	1500	564	16.0	3.08	0.939

Minimum daily discharge, 16 ft³/s (0.45 m³/s) Mar. 29-30, Apr. 1-5, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	28	28	26	22	19	16	29	47	210	80	46
2	30	29	28	26	22	18	17	26	47	204	81	44
3	30	30	28	26	22	19	16	27	50	203	82	44
4	30	31	28	26	22	19	16	29	61	194	79	43
5	30	30	26	26	22	18	16	33	79	163	76	43
6	30	29	26	26	21	18	17	35	93	156	74	42
7	30	30	26	26	22	18	17	41	131	153	72	45
8	31	29	26	26	21	18	16	40	138	155	71	46
9	31	29	26	26	21	18	17	39	180	151	73	58
10	30	29	26	26	21	18	17	37	267	145	67	73
11	31	28	26	26	20	18	17	38	351	145	65	80
12	31	28	26	26	20	18	17	39	424	145	64	70
13	31	28	25	26	20	17	17	34	478	139	62	63
14	31	28	25	25	20	18	17	34	345	141	64	56
15	31	28	25	25	20	18	18	35	260	130	81	53
16	31	28	25	24	20	18	19	36	288	122	74	49
17	31	28	25	24	20	17	19	34	385	112	66	47
18	31	28	25	24	21	17	20	33	452	114	62	46
19	31	28	25	24	21	17	21	37	375	111	59	45
20	31	29	25	23	21	17	24	46	262	110	56	43
21	33	28	25	23	20	17	27	62	250	109	53	44
22	31	27	25	23	20	18	30	85	249	107	52	46
23	32	27	25	23	19	17	29	106	252	107	52	44
24	33	28	25	23	19	17	29	81	248	103	55	43
25	33	28	25	23	19	17	25	54	237	98	59	42
26	33	28	25	23	19	17	24	56	252	96	57	42
27	33	28	25	23	19	17	23	48	245	93	52	42
28	32	27	25	23	19	17	23	51	238	88	49	42
29	32	26	25	23	19	16	26	50	212	83	47	41
30	31	28	25	23	---	16	29	50	206	86	47	40
31	29	---	26	23	---	17	---	46	---	84	47	---
TOTAL	965	850	796	760	592	544	619	1391	7102	4057	1978	1462
MEAN	31.1	28.3	25.7	24.5	20.4	17.5	20.6	44.9	237	131	63.8	48.7
MAX	33	31	28	26	22	19	30	106	478	210	82	80
MIN	29	26	25	23	19	16	16	26	47	83	47	40
AC-FT	1910	1690	1580	1510	1170	1080	1230	2760	14090	8050	3920	2900

CAL YR 1979 TOTAL 18353 MEAN 50.3 MAX 355 MIN 15 AC-FT 36400
WTR YR 1980 TOTAL 21116 MEAN 57.7 MAX 478 MIN 16 AC-FT 41880

07091200 ARKANSAS RIVER NEAR NATHROP, CO

LOCATION.--Lat 38°39'08", long 106°03'02", in SE¼SW¼ sec.23, T.51 N., R.8 E., Chaffee County, Hydrologic Unit 11020001, on right bank 300 ft (90 m) upstream from end of Chaffee County Road 60 in Browns Canyon, 3.7 mi (5.9 km) downstream from Browns Creek, 6.7 mi (10.8 km) south of Nathrop, and 9 mi (14 km) north of Salida.

DRAINAGE AREA.--1,060 mi² (2,745 km²).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,350 ft (2,240 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs, power development, diversions for irrigation of about 15,000 acres (61 km²), and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--16 years, 645 ft³/s (18.27 m³/s), 467,300 acre-ft/yr (576 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,960 ft³/s (140 m³/s) June 12, 1980, gage height, 8.51 ft (2.594 m); maximum gage height, 9.94 ft (2.725 m) Aug. 31, 1972 (backwater from unnamed tributary); minimum daily discharge, 95 ft³/s (2.69 m³/s) Feb. 25-27, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,960 ft³/s (140 m³/s) at 0200 June 12, gage height, 8.51 ft (2.594 m); minimum daily, 152 ft³/s (4.30 m³/s) Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	350	247	520	314	298	251	414	663	2000	3310	961	430
2	295	248	573	346	249	250	385	611	1800	3300	907	415
3	295	259	615	365	246	263	355	624	1900	3290	893	405
4	286	285	401	439	252	261	393	692	2170	2640	866	476
5	286	280	300	307	239	252	412	761	2780	2440	811	488
6	286	336	287	275	235	272	384	954	3080	2530	791	500
7	241	405	288	250	252	276	372	1360	3180	2670	879	500
8	225	401	283	254	236	261	351	1470	3270	2500	1030	488
9	229	409	265	244	243	245	331	1120	3600	2260	1030	590
10	229	396	259	237	288	251	366	994	3980	2090	1010	648
11	233	398	278	213	302	257	355	963	4430	2140	981	704
12	237	396	269	221	389	253	237	929	4890	2200	891	620
13	221	387	290	238	382	243	158	769	4750	2100	851	572
14	217	394	341	234	288	286	152	495	4470	1990	833	536
15	213	398	328	257	292	325	167	590	4280	1670	887	518
16	213	379	302	266	260	330	167	627	4000	1560	877	560
17	221	411	295	272	241	315	191	702	3450	1450	813	500
18	234	437	292	281	253	458	221	626	3730	1390	791	446
19	231	435	279	253	263	543	241	588	3930	1250	703	464
20	244	457	279	240	261	529	259	578	3640	1230	464	446
21	274	433	281	245	244	536	290	553	3840	1190	440	420
22	268	445	293	234	236	534	320	1070	3790	1200	435	395
23	274	482	293	235	244	534	504	1440	3780	1190	425	365
24	302	485	289	260	239	515	662	1940	3780	1180	458	360
25	290	461	307	283	231	526	562	1910	3660	1220	494	360
26	268	460	317	240	244	507	569	1790	3680	1180	512	370
27	259	454	320	239	252	545	553	1630	3630	[illegible]	458	370
28	250	446	287	239	253	542	569	1660	3480	1120	446	365
29	263	466	252	245	256	536	635	1830	3290	1080	430	335
30	268	481	275	242	---	541	678	2040	3270	990	430	320
31	244	---	[illegible]	230	---	582	---	2000	---	973	476	---
TOTAL	7946	11971	9936	8198	7668	12019	11253	33979	105530	56453	22273	13966
MEAN	256	399	321	264	264	388	375	1096	3518	1821	718	[illegible]
MAX	350	485	615	439	389	582	678	2040	4890	3310	1030	704
MIN	213	247	252	213	231	243	152	495	1800	973	425	320
AC-FT	15760	23740	19710	16260	15210	23840	22320	67400	209300	112000	44180	27700

CAL YR 1979 TOTAL 273489 MEAN 749 MAX 3500 MIN 140 AC-FT 542500
WTR YR 1980 TOTAL 301192 MEAN 823 MAX 4890 MIN 152 AC-FT 597400

07091500 ARKANSAS RIVER AT SALIDA, CO

LOCATION.--Lat 38°32'45", long 106°00'36", in NE¼ sec.31, T.50 N., R.9 E., Chaffee County, Hydrologic Unit 11020001, on right bank at Salida, 450 ft (140 m) upstream from bridge on State Highway 291, and 2.7 mi (4.3 km) upstream from South Arkansas River.

DRAINAGE AREA.--1,218 mi^2 (3,155 km^2).

PERIOD OF RECORD.--April to October 1895, May to December 1897, August 1898 to September 1899, April to October 1900, April 1901 to October 1903, October 1909 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1899, 1900, 1914(M), 1921(M).

GAGE.--Water-stage recorder. Datum of gage is 7,050.45 ft (2,148.977 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to Dec. 6, 1957.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions (see elsewhere in this report), storage reservoirs having a combined capacity of 193,900 acre-ft (240 hm^3), diversions for irrigation of about 18,000 acres (73 km^2) above station, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--74 years (water years 1899, 1902-3, 1910-80), 630 ft^3/s (17.84 m^3/s), 456,400 acre-ft/yr (563 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,220 ft^3/s (261 m^3/s) June 29, 1957, gage height, 7.82 ft (2.384 m), present datum; minimum daily, 100 ft^3/s (2.83 m^3/s) Oct. 4, 6, 7, 1898, Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, unknown, gage height, unknown; minimum daily, 196 ft^3/s (5.55 m^3/s) Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	294	266	404	266	256	256	404	664	1550	3150	902	437
2	272	266	404	266	256	245	353	607	1340	3120	848	430
3	256	266	424	261	256	250	335	607	1440	3070	839	410
4	261	278	335	272	256	256	353	664	1600	2330	821	458
5	261	283	294	266	250	250	372	706	2330	2100	767	479
6	261	323	288	261	245	250	353	794	2720	2180	740	493
7	235	404	288	261	261	256	347	1190	2840	2400	803	486
8	225	410	288	272	245	250	335	1220	2980	2180	940	493
9	225	410	283	261	250	245	329	839	3300	1950	970	591
10	225	404	278	256	256	245	341	758	3900	1770	940	672
11	220	398	283	261	256	250	341	776	4550	1840	930	698
12	210	404	278	250	266	245	272	785	5500	1890	866	631
13	205	384	278	266	300	240	200	714	5400	1820	812	583
14	200	384	278	266	278	266	196	493	4950	1770	767	552
15	200	378	288	266	278	300	210	522	4700	1500	803	530
16	200	378	288	272	266	300	210	552	4250	1400	803	560
17	200	391	288	272	250	288	225	639	3500	1310	749	508
18	205	410	288	283	256	384	250	591	3700	1280	723	465
19	210	417	288	272	266	465	266	545	4100	1150	655	479
20	215	417	288	261	256	465	283	545	3540	1140	451	472
21	235	398	283	266	250	465	305	500	3860	1120	430	444
22	256	404	283	266	250	465	341	776	3800	1120	424	430
23	256	410	283	256	250	465	458	1070	3800	1110	424	404
24	266	410	283	261	250	458	647	1470	3830	1090	444	404
25	266	417	294	266	245	465	568	1490	3630	1130	465	398
26	256	417	294	278	245	458	568	1380	3670	1100	479	410
27	250	410	300	278	250	472	552	1210	3610	1040	458	404
28	245	404	288	266	250	486	552	1230	3450	1040	451	404
29	256	391	266	278	256	479	615	1360	3150	1010	430	378
30	266	404	266	256	---	479	655	1570	3100	930	437	372
31	266	---	266	245	---	500	---	1540	---	920	472	---
TOTAL	7398	11336	9237	8227	7449	10898	11236	27807	104090	50960	21043	14475
MEAN	239	378	298	265	257	352	375	897	3470	1644	679	483
MAX	294	417	424	283	300	500	655	1570	5500	3150	970	698
MIN	200	266	266	245	245	240	196	493	1340	920	424	372
AC-FT	14670	22480	18320	16320	14780	21620	22290	55160	206500	101100	41740	28710

CAL YR 1979 TOTAL 266919 MEAN 731 MAX 3570 MIN 140 AC-FT 529400
WTR YR 1980 TOTAL 284156 MEAN 776 MAX 5500 MIN 196 AC-FT 563600

NOTE.--NO GAGE-HEIGHT RECORD JUNE 8-19.

07093700 ARKANSAS RIVER NEAR WELLSVILLE, CO

LOCATION.--Lat 38°30'10", long 105°56'21", in SW¼NE¼ sec.14, T.49 N., R.9 E., Chaffee County, Hydrologic Unit 11020001, on right bank 50 ft (15 m) upstream from Chaffee-Fremont County line, 2.0 mi (3.2 km) northwest of Wellsville, 2.8 mi (4.5 km) downstream from South Arkansas River, and 3.5 mi (5.6 km) southeast of Salida.

DRAINAGE AREA.--1,485 mi^2 (3,846 km^2).

PERIOD OF RECORD.--April 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,883.4 ft (2,098.06 m), National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 26,000 acres (110 km^2), and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division Water Resources and reviewed by Geological Survey).

AVERAGE DISCHARGE.--19 years, 697 ft^3/s (19.74 m^3/s), 505,000 acre-ft/yr (623 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft^3/s (177 m^3/s) June 12, 1980, gage height, 8.02 ft (2.444 m); minimum daily, 110 ft^3/s (3.12 m^3/s) Jan. 12, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,240 ft^3/s (177 m^3/s) at 0900 June 12, gage height, 8.02 ft (2.444 m); minimum daily, 216 ft^3/s (6.12 m^3/s) Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	351	315	530	351	335	331	480	734	1840	3510	983	476
2	327	315	545	363	347	315	430	675	1680	3500	934	472
3	303	319	555	335	347	319	410	675	1760	3450	927	449
4	311	331	476	367	347	319	430	722	1940	2710	908	476
5	311	343	418	359	343	319	450	770	2780	2480	860	512
6	307	375	400	359	339	319	440	848	3180	2480	830	521
7	279	462	400	347	359	327	430	1180	3300	2670	860	530
8	264	472	395	343	347	311	410	1260	3370	2460	1020	530
9	268	476	387	359	331	307	413	990	3780	2240	1030	605
10	261	472	379	343	343	303	422	890	4440	2020	997	692
11	258	467	387	335	339	307	426	890	5060	2030	983	764
12	247	462	387	339	343	303	363	896	5980	2040	914	716
13	244	458	371	363	408	295	226	836	5880	1970	872	675
14	230	462	375	363	387	315	216	640	5440	1900	872	640
15	230	458	400	363	379	363	230	625	5180	1600	908	615
16	230	449	395	367	371	375	244	655	4740	1490	908	630
17	236	472	391	367	343	347	254	716	4000	1380	860	585
18	240	494	391	387	339	440	291	704	4220	1360	836	535
19	244	503	383	379	371	540	319	645	4680	1220	788	535
20	247	526	379	351	355	540	343	650	4220	1220	550	530
21	268	521	383	343	335	540	379	620	4440	1190	535	512
22	325	516	391	347	331	540	422	896	4260	1190	516	503
23	325	516	387	315	331	540	512	1300	4280	1160	508	472
24	335	516	379	327	327	530	734	1690	4220	1160	526	458
25	340	540	395	347	311	540	650	1750	4110	1220	550	454
26	327	540	408	351	323	530	640	1620	4160	1190	555	462
27	315	540	422	339	327	550	630	1410	4090	1140	526	462
28	299	512	400	347	327	560	625	1410	3910	1120	503	462
29	303	512	359	351	331	550	675	1510	3530	1090	490	440
30	323	530	359	355	---	550	722	1780	3430	1020	480	431
31	319	---	343	323	---	580	---	1780	---	1000	521	---
TOTAL	8867	13874	12570	10885	10016	13005	13216	31767	117900	56210	23550	16144
MEAN	286	462	405	351	345	420	441	1025	3930	1813	760	538
MAX	351	540	555	387	408	580	734	1780	5980	3510	1030	764
MIN	230	315	343	315	311	295	216	620	1680	1000	480	431
AC-FT	17590	27520	24930	21590	19870	25800	26210	63010	233900	111500	46710	32020

CAL YR 1979 TOTAL 298803 MEAN 819 MAX 3930 MIN 180 AC-FT 592700
WTR YR 1980 TOTAL 328004 MEAN 896 MAX 5980 MIN 216 AC-FT 650600

07094500 ARKANSAS RIVER AT PARKDALE, CO

LOCATION.--Lat 38°29'14", long 105°22'23", in NE¼NW¼ sec.18, T.18 S., R.71 W., Fremont County, Hydrologic Unit 11020001, on left bank at Parkdale, 100 ft (30 m) upstream from Bumback Gulch, 300 ft (90 m) upstream from bridge on U.S. Highway 50, and 0.9 mi (1.4 km) upstream from Copper Gulch.

DRAINAGE AREA.--2,548 mi² (6,599 km²).

PERIOD OF RECORD.--October 1945 to September 1955, October 1964 to current year. Monthly discharge only for October 1945 to May 1946, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,720 ft (1,473 m), from topographic map. Prior to Oct. 1, 1964, at site 600 ft (180 m) downstream at different datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, diversions for irrigation of about 35,000 acres (140 km²) above station, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--26 years (water years 1946-80), 775 ft³/s (21.95 m³/s), 561,500 acre-ft/yr (692 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,880 ft³/s (167 m³/s) June 22, 1947, gage height, 9.02 ft (2.749 m), site and datum then in use, from rating curve extended above 3,000 ft³/s (85 m³/s); minimum daily, 200 ft³/s (5.66 m³/s) Jan. 5-7, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,840 ft³/s (165 m³/s) at 1215 June 12, gage height, 8.07 ft (2.460 m); minimum daily, 282 ft³/s (7.99 m³/s) Oct. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	375	330	613	400	346	372	680	1230	2350	3830	1170	531
2	372	330	622	410	370	360	556	1140	2230	3820	1140	509
3	336	340	669	420	382	367	516	1080	2240	3790	1110	491
4	340	350	646	420	377	377	523	1170	2370	3160	1080	483
5	340	370	501	420	374	371	570	1240	2990	2750	1010	55
6	335	440	471	420	354	364	593	1350	3460	2610	969	55
7	330	490	460	410	367	370	567	1740	3750	2910	943	56
8	300	520	453	400	359	365	517	2000	3840	2680	1150	57
9	296	540	443	390	319	354	516	1750	4240	2540	1260	64
10	302	530	436	400	345	345	515	1500	4830	2310	1200	80
11	298	520	431	410	357	352	541	1430	5230	2270	1160	93
12	293	510	431	410	349	354	507	1460	5690	2320	1110	87
13	295	500	412	410	399	343	356	1410	5660	2250	1040	80
14	285	500	404	403	419	346	310	1240	5410	2230	982	74
15	285	530	441	400	405	395	325	1130	5220	1920	1120	70
16	283	552	445	400	401	432	339	1260	5000	1790	1100	691
17	282	562	443	390	366	411	329	1300	4500	1660	1010	69
18	289	596	441	397	359	415	348	1260	4400	1600	948	603
19	288	611	431	419	402	627	387	1160	4840	1490	916	586
20	288	652	431	378	393	636	418	1120	4560	1440	703	587
21	310	643	427	362	376	636	447	1090	4580	1440	575	568
22	320	608	426	366	370	638	482	1240	4600	1480	561	545
23	340	629	423	336	364	649	560	1800	4560	1460	544	531
24	350	629	409	353	357	628	1160	2200	4580	1430	553	510
25	360	649	420	362	353	641	1090	2370	4440	1420	585	503
26	360	645	440	356	358	625	982	2260	4400	1420	603	510
27	350	651	440	340	369	651	973	2010	4370	1360	619	517
28	340	599	430	354	377	672	935	1970	4240	1330	545	510
29	330	576	420	341	379	669	1000	2030	3940	1310	522	495
30	320	577	400	386	---	656	1120	2290	3750	1220	508	470
31	320	---	400	338	---	686	---	2290	---	1210	534	---
TOTAL	9912	15979	14259	11998	10746	15107	18162	48520	126270	64450	27270	18125
MEAN	320	533	460	387	371	487	605	1565	4209	2079	880	604
MAX	375	652	669	420	419	686	1160	2370	5690	3830	1260	939
MIN	282	330	400	336	319	343	310	1080	2230	1210	508	470
AC-FT	19660	31690	28280	23800	21310	29960	36020	96240	250500	127800	54090	35950

CAL YR 1979 TOTAL 343243 MEAN 940 MAX 5000 MIN 250 AC-FT 680800
WTR YR 1980 TOTAL 380798 MEAN 1040 MAX 5690 MIN 282 AC-FT 755300

07095000 GRAPE CREEK NEAR WESTCLIFFE, CO

LOCATION.--Lat 38°11'10", long 105°28'59", in NW¼NW¼ sec.31, T.21 S., R.72 W., Custer County, Hydrologic Unit 11020001, on left bank 0.5 mi (0.8 km) upstream from water line of De Weese Reservoir at elevation 7,665 ft (2,336.3 m), 0.5 mi (0.8 km) downstream from Swift Creek, and 3.6 mi (5.8 km) northwest of Westcliffe.

DRAINAGE AREA.--320 mi² (829 km²).

PERIOD OF RECORD.--October 1924 to September 1961, October 1962 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1241: 1950(M). WSP 1311: 1927(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,690 ft (2,344 m), from topographic map. Prior to Mar. 17, 1939, at site 30 ft (9 m) upstream at present datum.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation of about 15,000 acres (60.7 km²). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--55 years (water years 1925-61, 1963-80), 32.0 ft³/s (0.906 m³/s), 23,180 acre-ft/yr (28.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,460 ft³/s (211 m³/s) Aug. 2, 1966, gage height, 8.45 ft (2.576 m), from rating curve extended above 320 ft³/s (9.1 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 0.1 ft³/s (0.003 m³/s) June 19-22, 1936.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 320 ft³/s (9.06 m³/s) at 1700 June 12, gage height, 2.18 ft (0.664 m), only peak above base of 250 ft³/s (7.1 m³/s); minimum daily, 5.2 ft³/s (0.147 m³/s) Sept. 1, 3, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	17	17	17	24	28	27	112	70	52	14	5.2
2	8.0	16	19	15	24	26	29	110	68	71	13	5.8
3	7.4	17	24	13	26	29	31	84	63	63	14	5.2
4	8.0	20	23	18	26	26	30	134	56	54	12	5.8
5	8.0	19	25	22	24	26	35	99	55	43	9.8	5.2
6	8.0	20	23	25	25	26	34	141	61	38	8.9	5.8
7	8.0	21	24	20	22	25	33	109	68	34	7.4	5.8
8	8.0	21	24	24	16	24	35	216	74	29	11	5.8
9	8.0	21	24	27	12	24	39	121	130	29	13	9.8
10	8.9	21	24	30	16	24	42	79	203	26	8.0	14
11	8.9	17	22	26	17	25	40	67	269	19	6.9	35
12	8.9	16	20	27	20	21	38	65	290	13	7.4	24
13	8.9	15	18	30	25	19	40	63	263	12	7.4	17
14	9.8	15	18	30	25	21	45	60	219	8.9	8.9	15
15	7.4	14	20	29	26	24	48	85	173	7.4	13	12
16	7.0	15	20	27	26	18	56	139	156	6.9	12	11
17	7.0	15	20	27	26	15	62	185	151	6.9	9.8	9.8
18	7.0	16	20	27	27	20	74	123	149	5.8	8.9	9.8
19	7.0	15	18	26	27	25	80	89	146	6.4	8.0	9.8
20	7.5	19	18	25	28	28	90	75	134	6.9	7.4	8.0
21	16	16	17	24	28	39	95	79	128	6.4	6.9	8.0
22	14	14	14	22	29	35	100	91	128	50	6.9	8.0
23	14	14	12	21	26	26	105	114	123	20	6.9	8.9
24	13	15	15	22	22	29	100	144	103	16	6.9	8.9
25	12	18	18	22	24	39	90	139	92	14	7.4	8.9
26	11	19	18	22	25	35	174	119	92	15	6.9	9.8
27	11	16	14	21	30	38	144	103	86	14	6.9	8.9
28	11	13	10	22	36	32	92	89	84	12	6.4	8.9
29	11	15	10	22	36	31	54	86	71	11	5.8	8.0
30	12	15	12	24	---	31	59	81	58	8.9	5.8	8.0
31	14	---	15	22	---	27	---	77	---	12	5.8	---
TOTAL	299.6	505	576	729	718	836	1921	3278	3763	711.5	273.4	306.1
MEAN	9.66	16.8	18.6	23.5	24.8	27.0	64.0	106	125	23.0	8.82	10.2
MAX	16	21	25	30	36	39	174	216	290	71	14	35
MIN	7.0	13	10	13	12	15	27	60	55	5.8	5.8	5.2
AC-FT	594	1000	1140	1450	1420	1660	3810	6500	7460	1410	542	607

CAL YR 1979 TOTAL 17570.1 MEAN 48.1 MAX 775 MIN 5.2 AC-FT 34850
WTR YR 1980 TOTAL 13916.6 MEAN 38.0 MAX 290 MIN 5.2 AC-FT 27600

07096000 ARKANSAS RIVER AT CANON CITY, CO

LOCATION.--Lat 38°26'02", long 105°15'24", in SE¼SE¼ sec.31, T.18 S., R.70 W., Fremont County, Hydrologic Unit 11020002, on right bank 800 ft (240 m) upstream from Sand Creek, 0.7 mi (1.1 km) downstream from Grape Creek, and 0.7 mi (1.1 km) upstream from First Street Bridge in Canon City.

DRAINAGE AREA.--3,117 mi^2 (8,073 km^2).

PERIOD OF RECORD.--January 1888 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near Canyon" 1900-1906.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1897-98.

GAGE.--Water-stage recorder. Datum of gage is 5,342.13 ft (1,628.281 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to Oct. 1, 1957. Oct. 1, 1957, to Nov. 15, 1962, water-stage recorder at present site at datum 1.49 ft (0.454 m) higher.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions for irrigation of about 56,000 acres (227 km^2), and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--92 years, 718 ft^3/s (20.33 m^3/s), 520,200 acre-ft/yr (641 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft^3/s (538 m^3/s) Aug. 2, 1921, gage height, 10.7 ft (3.26 m), site and datum then in use, from floodmark, from rating curve extended above 5,000 ft^3/s (140 m^3/s); minimum daily, 69 ft^3/s (1.95 m^3/s) May 13, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,290 ft^3/s (206 m^3/s) at 1300 June 12, gage height, 10.05 ft (3.063 m); minimum daily, 171 ft^3/s (484 m^3/s) Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	255	512	410	345	393	735	1230	2170	3670	887	399
2	237	260	526	395	340	369	593	1190	2060	3630	860	369
3	214	265	578	370	345	375	526	1180	2060	3610	834	345
4	208	275	578	360	345	387	512	1260	2180	3050	800	334
5	211	296	457	395	351	387	555	1260	2920	2640	809	405
6	208	290	425	390	345	369	608	1270	3420	2450	775	405
7	204	369	399	370	351	381	655	1630	3560	2730	703	425
8	192	418	393	369	363	375	600	2010	3740	2520	800	425
9	183	425	381	412	329	363	570	1750	4080	2360	959	498
10	190	430	369	393	340	351	563	1430	4690	2100	923	639
11	187	420	363	381	357	357	600	1330	5460	2030	878	751
12	183	415	381	340	345	363	563	1340	6670	2070	843	735
13	182	425	375	334	369	351	412	1210	6830	2000	809	663
14	178	412	369	393	431	345	334	1060	6260	1990	767	615
15	171	425	393	451	431	393	334	986	5730	1660	878	585
16	175	418	412	425	457	451	334	1150	5320	1520	860	555
17	178	431	405	412	438	451	301	1210	4590	1380	784	578
18	176	470	387	418	431	444	307	1220	4370	1320	743	491
19	178	498	387	440	470	593	312	1090	4940	1240	727	457
20	183	570	393	395	470	647	334	1020	4650	1160	570	470
21	195	548	387	375	418	647	351	977	4630	1150	451	457
22	230	519	405	381	399	647	399	1030	4610	1170	431	431
23	240	526	399	351	393	687	491	1520	4530	1160	412	418
24	270	540	387	363	375	655	1010	1920	4510	1110	405	393
25	275	555	399	363	363	671	1040	2200	4370	1100	431	387
26	265	555	425	381	363	655	968	2080	4310	1110	457	393
27	245	563	451	363	369	679	995	1830	4290	1060	484	399
28	234	519	457	412	387	711	959	1750	4170	1020	405	393
29	227	505	399	412	393	703	950	1790	3850	1000	387	381
30	250	491	380	464	---	687	1010	2010	3610	941	375	363
31	250	---	395	387	---	703	---	2100	---	932	399	---
TOTAL	6559	13088	12967	12105	11113	15590	17921	45033	128580	56883	20846	14159
MEAN	212	436	418	390	383	503	597	1453	4286	1835	672	472
MAX	275	570	578	464	470	711	1040	2200	6830	3670	959	751
MIN	171	255	363	334	329	345	301	977	2060	932	375	334
AC-FT	13010	25960	25720	24010	22040	30920	35550	89320	255000	112800	41350	28080

CAL YR 1979 TOTAL 312262 MEAN 856 MAX 4650 MIN 150 AC-FT 619400
WTR YR 1980 TOTAL 354844 MEAN 970 MAX 6830 MIN 171 AC-FT 703800

07096500 FOURMILE CREEK NEAR CANON CITY, CO

LOCATION.--Lat 38°26'11", long 105°11'27", in NE¼SW¼ sec.35, T.18 S., R.70 W., Fremont County, Hydrologic Unit 11020002, on right bank 1,000 ft (300 m) downstream from railroad bridge, 0.6 mi (1.0 km) upstream from mouth, and 2.8 mi (4.5 km) east of courthouse in Canon City.

DRAINAGE AREA.--434 mi² (1,124 km²).

PERIOD OF RECORD.--April to October 1910 (gage heights and discharge measurements only), October 1948 to September 1953, November 1970 to current year. Published as "Oil or Fourmile Creek" in 1910 and as Oil Creek near Canon City, 1948-53.

GAGE.--Water-stage recorder. Concrete control since Oct. 1, 1974. Altitude of gage is 5,254 ft (1,601 m), from topographic map. April to October 1910, nonrecording gage at site 1,200 ft (370 m) upstream at different datum. October 1948 to September 1953, water-stage recorder at site 0.6 mi (1.0 km) upstream at different datum.

REMARKS.--Records good except those May 8-20, which are poor. Diversions for irrigation of about 500 acres (2.02 km²) above station. Water imported to basin from Arkansas River for irrigation of a few small orchards above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--14 years (water years 1949-53, 1972-80), 19.4 ft³/s (0.549 m³/s), 14,060 acre-ft/yr (17.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,260 ft³/s (121 m³/s) July 11, 1951, gage height, 9.25 ft (2.819 m), from floodmarks, site and datum then in use, from rating curve extended above 96 ft³/s (2.7 m³/s), on basis of slope-area measurement of peak flow; no flow Sept. 3-10, 1950, Sept. 23, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge recorded, 580 ft³/s (16.4 m³/s) at 1645 May 7, gage height, 4.13 ft (1.259 m) but may have been more during period of no gage-height record May 8-20, only peak above base of 300 ft³/s (8.5 m³/s); minimum daily, 7.1 ft³/s (0.20 m³/s) Mar. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	22	12	13	10	9.0	33	226	176	29	22	24
2	23	21	10	14	12	9.4	35	257	176	30	24	22
3	22	21	12	13	16	11	35	218	168	29	25	21
4	22	21	10	14	16	10	33	284	164	30	25	22
5	22	20	11	14	16	9.1	33	424	145	29	23	25
6	22	22	11	13	16	8.6	32	421	96	29	19	22
7	23	21	12	12	17	8.8	32	530	76	29	19	20
8	23	19	12	11	17	8.5	30	540	72	27	22	19
9	24	16	12	11	13	7.7	26	540	76	25	23	21
10	34	15	12	11	16	7.6	26	500	82	24	23	21
11	44	15	11	11	14	7.5	26	450	91	22	23	20
12	47	15	10	11	14	7.2	29	400	70	23	25	20
13	47	18	9.6	11	17	7.4	31	370	55	23	22	22
14	29	15	9.3	11	17	15	27	340	47	23	37	23
15	22	16	10	11	16	13	27	300	45	22	41	22
16	22	17	13	13	14	7.1	29	370	42	20	35	20
17	22	18	15	13	14	7.9	29	440	36	19	35	20
18	22	22	19	14	15	10	24	450	37	18	32	20
19	22	26	17	16	16	19	21	440	37	18	27	19
20	25	30	14	14	17	24	24	400	37	18	29	19
21	24	28	14	11	16	20	25	367	36	18	24	19
22	22	25	15	13	16	31	26	339	35	19	22	19
23	22	22	15	10	16	28	30	346	35	20	28	19
24	22	20	16	11	15	27	83	346	34	21	30	19
25	20	20	17	13	11	26	61	346	32	25	30	18
26	19	18	16	9.9	7.8	26	50	304	27	25	29	16
27	19	19	16	8.4	7.7	28	45	260	26	25	33	16
28	19	18	14	9.4	8.0	27	47	230	30	22	32	16
29	20	17	14	9.1	9.2	27	53	200	30	22	29	17
30	22	15	13	10	---	27	115	172	29	21	25	16
31	24	---	14	10	---	30	---	172	---	22	25	---
TOTAL	773	592	405.9	365.8	409.7	504.8	1117	10982	2042	727	838	597
MEAN	24.9	19.7	13.1	11.8	14.1	16.3	37.2	354	68.1	23.5	27.0	19.9
MAX	47	30	19	16	17	31	115	540	176	30	41	25
MIN	19	15	9.3	8.4	7.7	7.1	21	172	26	18	19	16
AC-FT	1530	1170	805	726	813	1000	2220	21780	4050	1440	1660	1180

CAL YR 1979 TOTAL 6486.86 MEAN 17.8 MAX 58 MIN .54 AC-FT 12870
WTR YR 1980 TOTAL 19354.20 MEAN 52.9 MAX 540 MIN 7.1 AC-FT 38390

07097000 ARKANSAS RIVER AT PORTLAND, CO

LOCATION.--Lat 38°23'18", long 105°00'56", in NE¼NE¼ sec.20, T.19 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on right bank at bridge on State Highway 120 at Portland and 1 mi (1.6 km) downstream from Hardscrabble Creek.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--4,024 mi² (10,422 km²).

PERIOD OF RECORD.--May 1939 to September 1952, October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,021.59 ft (1,530.581 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1974, at site 400 ft (120 m) downstream at datum 0.03 ft (0.009 m) lower.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions above station for irrigation of about 60,000 acres (243 km²) and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--19 years (water years 1940-52, 1975-80), 733 ft³/s (20.76 m³/s), 531,100 acre-ft/yr (655 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,100 ft³/s (598 m³/s) June 5, 1949, gage height, 12.12 ft (3.712 m), from rating curve extended above 5,300 ft³/s (150 m³/s); minimum daily, 71 ft³/s (2.01 m³/s) Apr. 2, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,300 ft³/s (207 m³/s) at 1700 June 12, gage height, 8.38 ft (2.554 m); minimum daily, 168 ft³/s (4.76 m³/s) Oct. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	276	289	540	352	325	318	631	2180	2380	3640	834	429
2	283	293	535	336	333	300	510	1890	2390	3760	821	388
3	253	296	505	314	340	314	456	1740	2260	3640	795	364
4	234	307	475	303	329	310	442	1830	2340	3220	753	360
5	243	329	380	340	314	314	490	2120	2270	2650	747	392
6	237	329	336	336	296	300	525	2160	3600	2420	705	416
7	222	388	360	318	296	310	570	2450	3840	2680	642	434
8	210	460	329	293	300	307	520	3120	3940	2550	723	442
9	183	465	322	318	269	293	490	2990	4300	2360	899	570
10	185	470	360	318	266	283	490	2450	5140	2090	860	687
11	202	460	368	303	303	286	525	2240	5740	1990	828	795
12	210	456	368	293	286	289	490	2210	6750	2070	802	783
13	213	460	348	318	318	283	364	2010	6990	2030	741	711
14	207	447	325	310	360	269	300	1810	6460	1980	814	664
15	194	460	348	368	360	296	356	1880	5920	1720	925	609
16	172	456	364	344	364	348	408	2560	5460	1540	860	570
17	168	456	360	336	340	356	388	2180	4810	1420	789	592
18	175	485	352	336	340	344	376	2180	4450	1340	723	510
19	185	510	344	368	368	452	279	1990	4860	1250	687	460
20	202	565	340	329	380	550	296	1860	4740	1150	592	480
21	222	540	344	310	336	530	303	1780	4600	1130	438	456
22	283	510	352	314	314	540	329	1780	4670	1140	416	438
23	296	510	352	289	310	587	490	2260	4600	1150	400	438
24	300	530	336	289	296	545	1440	2630	4630	1120	400	408
25	276	535	340	300	286	545	1380	2960	4520	1100	424	416
26	259	540	364	300	289	535	1150	2780	4380	1110	447	420
27	243	530	388	250	307	565	1170	2460	4320	1060	598	424
28	243	480	392	296	303	592	1170	2260	4210	984	434	420
29	240	465	368	276	318	576	1170	2250	3920	944	400	408
30	272	465	318	364	---	565	1600	2460	3680	880	388	396
31	296	---	336	352	---	587	---	2460	---	873	416	---
TOTAL	7184	13486	11549	9873	9246	12689	19108	69930	132870	56991	20301	14880
MEAN	232	450	373	318	319	409	637	2256	4429	1838	655	496
MAX	300	565	540	368	380	592	1600	3120	6990	3760	925	795
MIN	168	289	318	250	266	269	279	1740	2260	873	388	360
AC-FT	14250	26750	22910	19580	18340	25170	37900	138700	263500	113000	40270	29510

CAL YR 1979 TOTAL 300417 MEAN 823 MAX 4700 MIN 150 AC-FT 595900
WTR YR 1980 TOTAL 378107 MEAN 1033 MAX 6990 MIN 168 AC-FT 750000

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1979 to September 1980.
WATER TEMPERATURE: October 1979 to September 1980.

REMARKS.--Specific conductance and water temperature records are once daily measurements obtained by a local observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 908 micromhos Apr. 24, 1980; minimum daily, 174 micromhos June 24, 1980.
WATER TEMPERATURES: Maximum daily, 19.5°C Aug. 27, 1980; minimum daily, 0.0°C many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 908 micromhos Apr. 24; minimum daily, 174 micromhos June 24.
WATER TEMPERATURES: Maximum daily, 19.5°C Aug. 27; minimum daily, 0.0°C many days during November to February.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	NITROGEN, DISSOLVED (MG/L AS N)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
02...	1300	318	545	8.6	17.0	2.0	11.9	.5	1.50	K130	64
NOV											
02...	0915	293	547	8.3	5.0	2.1	--	.8	--	41	50
DEC											
05...	1015	364	391	7.8	3.0	7.7	15.0	.7	1.30	K26	46
FEB											
29...	1415	303	448	8.1	6.0	2.0	11.0	.6	--	100	54
APR											
16...	1345	416	465	8.4	15.5	6.3	11.0	.5	--	K4	--
MAY											
27...	1245	2390	320	7.9	14.0	66	9.0	.7	--	420	K380
JUN											
25...	1500	4660	167	7.5	18.0	48	--	.4	--	560	270
JUL											
29...	1400	916	300	8.2	23.0	2.8	8.3	.5	--	--	75
SEP											
02...	1115	394	502	8.3	19.5	4.5	9.0	.9	--	>240	<2
30...	1130	396	478	8.4	17.0	3.0	9.8	.5	--	--	150

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT											
02...	210	75	58	17	27	.8	2.9	140	140	8.6	.6
NOV											
02...	220	71	59	18	27	.8	2.9	150	110	9.1	.7
DEC											
05...	150	52	41	12	18	.6	1.9	100	82	6.6	.5
FEB											
29...	190	67	50	15	22	.7	2.3	120	96	9.0	.6
APR											
16...	200	66	52	16	26	.8	2.5	130	110	11	.6
MAY											
27...	120	44	31	10	14	.6	2.0	75	64	5.2	.5
JUN											
25...	69	13	20	4.7	5.8	.3	1.1	56	26	1.8	.2
JUL											
29...	120	31	32	8.6	12	.5	1.8	84	52	4.9	.5
SEP											
02...	200	71	54	16	25	.8	2.9	130	120	9.8	.6
30...	190	62	52	15	24	.8	2.8	130	110	8.8	.6

K BASED ON NON-IDEAL COLONY COUNT.

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
02...	11	352	350	.48	302	11	.24	.02	.26	.13	.02
NOV											
02...	13	353	332	.48	279	--	--	--	.45	.44	.03
DEC											
05...	10	249	234	.34	245	46	.41	.04	.45	.43	.05
FEB											
29...	9.9	287	278	.39	235	--	--	--	.23	.23	.10
APR											
16...	12	283	309	.38	318	--	--	--	.18	.10	.06
MAY											
27...	12	202	185	.27	1300	--	--	--	.26	.26	.06
JUN											
25...	7.9	109	102	.15	1370	--	--	--	.13	.13	.04
JUL											
29...	8.5	185	171	.25	458	--	--	--	.13	.12	.00
SEP											
02...	12	312	320	.42	332	--	--	--	.27	.33	.00
30...	11	285	303	.39	305	--	--	--	.12	.11	.02

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT											
02...	.02	.54	.37	.56	.39	.82	.03	.04	.04	--	3.2
NOV											
02...	.05	.52	.39	.55	.44	1.0	.06	.00	--	--	14
DEC											
05...	.06	.58	.24	.63	.30	1.1	.11	.04	.03	0	7.4
FEB											
29...	.07	.42	.34	.52	.41	.75	.06	.04	--	--	13
APR											
16...	.06	.71	.40	.77	.46	.95	.08	.05	--	0	--
MAY											
27...	.07	.61	.43	.67	.50	.93	.39	.04	--	0	9.9
JUN											
25...	.05	1.5	.31	1.50	.36	1.6	.21	.03	--	0	--
JUL											
29...	.00	.86	.46	.86	.46	.99	.03	.05	--	0	5.1
SEP											
02...	.00	.73	.58	.73	.58	1.0	.07	.04	--	0	9.3
30...	.01	.56	.47	.58	.48	.70	.05	.03	--	--	--

DATE	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	CYANIDE DIS- SOLVED (MG/L AS CN)	CYANIDE TOTAL (MG/L AS CN)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)
OCT										
02...	--	--	--	--	2200	--	--	--	--	--
NOV										
02...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	7.4	.5	--	--	2800	15.4	16.5	2.37	.113	464
FEB										
29...	--	--	--	--	--	--	--	--	--	--
APR										
16...	5.6	5.6	.00	.00	--	--	--	--	--	--
MAY										
27...	--	--	--	--	--	--	--	--	--	--
JUN										
25...	5.0	2.6	--	--	90	--	--	--	--	--
JUL										
29...	--	--	--	--	--	--	--	--	--	--
SEP										
02...	--	--	--	--	1400	23.2	24.8	13.0	1.29	123
30...	3.6	--	--	--	--	--	--	--	--	--

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)
DEC 05...	1015	2	2	300	50	--	--	0	<1	0	0	0
APR 16...	1345	2	1	100	60	0	<1	0	<1	0	0	--
JUN 25...	1500	1	2	100	40	0	<1	1	<1	10	0	--
SEP 30...	1130	1	2	100	70	0	0	0	<1	20	0	--

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
DEC 05...	1	<3	0	0	1100	40	9	0	80	30	.0
APR 16...	0	<3	4	0	490	30	2	0	40	20	.1
JUN 25...	3	<3	16	4	5600	10	28	69	280	30	.4
SEP 30...	0	<3	4	2	360	20	2	1	60	30	.0

DATE	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
DEC 05...	.0	--	--	--	--	1	0	0	--	100	50
APR 16...	.0	4	<10	4	2	2	2	0	1.0	40	8
JUN 25...	.1	2	<10	6	5	1	0	0	1.0	220	20
SEP 30...	.0	5	6	7	2	2	2	--	2.0	30	10

DATE	TIME	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)
FEB 29...	1415	8.2	.3	12	.4	3.6	.9
APR 16...	1345	12	<.3	18	<.4	4.1	.9
MAY 01...	1100	4.9	48	7.2	71	5.0	41
27...	1245	2.8	8.8	4.1	13	3.0	9.5
JUN 25...	1500	<1.3	4.2	<1.9	6.2	1.8	4.6
JUL 29...	1400	2.8	.7	4.1	1.1	4.0	1.2
SEP 02...	1115	7.5	.6	11	.9	5.9	1.9
30...	1130	10	<.3	15	<.4	6.0	.8

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DIS-SOLVED (UG/L AS U)	URANIUM NATURAL TOTAL (UG/L AS U)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
FEB							
29...	3.5	.9	--	.12	--	--	7.2
APR							
16...	4.2	.9	<.1	.08	7.1	8.5	8.0
MAY							
01...	4.8	39	--	--	--	--	--
27...	2.9	8.9	--	--	--	--	--
JUN							
25...	1.7	4.5	<.1	.08	2.4	2.6	1.7
JUL							
29...	3.8	1.2	--	--	--	--	--
SEP							
02...	5.7	1.8	--	.23	--	--	7.1
30...	5.7	.8	<.1	--	6.6	7.5	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	597	599	475	583	538	530	455	633	552	184	321	461
2	594	611	449	578	522	441	455	628	650	327	314	476
3	645	629	455	584	639	448	498	519	656	331	312	48[illegible]
4	646	676	516	540	639	525	510	518	645	336	312	474
5	654	592	517	548	657	525	511	512	671	335	324	441
6	649	590	517	549	650	529	515	525	574	332	324	440
7	653	514	518	547	558	504	441	518	558	331	304	439
8	649	501	523	523	556	497	434	530	558	331	303	439
9	654	462	518	519	561	496	431	524	368	327	304	443
10	672	501	614	523	553	454	442	438	364	326	310	441
11	677	503	624	515	620	461	435	434	369	327	310	441
12	673	498	538	555	610	463	439	431	404	250	315	438
13	677	492	527	532	608	461	516	454	402	245	315	387
14	696	510	531	527	609	449	517	458	400	249	359	382
15	695	540	523	556	616	526	519	454	406	252	408	372
16	742	546	535	553	538	535	520	681	773	268	409	376
17	739	569	557	548	540	634	677	689	763	268	344	401
18	744	561	553	572	547	470	687	698	771	268	348	400
19	751	565	535	588	545	468	692	505	773	259	344	405
20	752	587	600	586	540	465	684	496	774	267	344	402
21	782	497	609	572	521	420	560	499	184	267	345	437
22	722	512	602	538	520	420	558	432	178	267	345	442
23	664	503	598	538	522	419	558	437	175	284	456	444
24	662	521	542	534	522	419	908	424	174	284	457	445
25	667	578	535	538	498	421	856	432	187	285	459	451
26	668	473	543	533	531	481	790	455	186	286	461	453
27	665	495	524	544	535	478	790	450	187	292	499	458
28	759	551	521	544	538	475	650	460	186	289	501	454
29	761	549	504	650	533	474	510	454	186	280	474	458
30	688	552	504	518	---	456	624	565	186	288	461	459
31	651	---	586	538	---	455	---	554	---	291	472	---

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	4.5	.0	1.0	.0	5.5	5.0	5.5	16.0	---	19.0	17.0
2	---	6.0	1.0	.0	.5	5.0	4.5	5.0	14.0	---	19.0	16.5
3	---	6.5	2.0	.0	1.0	5.0	5.0	6.0	12.0	---	19.0	16.0
4	---	5.0	2.0	.0	3.0	5.5	6.5	7.5	11.5	---	19.0	16.0
5	---	5.0	3.0	1.0	4.0	5.0	8.0	8.0	11.0	---	18.5	16.0
6	---	5.0	3.0	2.0	4.0	5.0	8.0	9.0	13.5	---	18.0	16.0
7	---	7.0	3.0	3.0	2.0	6.0	10.5	10.5	14.0	---	19.0	16.0
8	---	7.5	4.0	.0	.0	8.0	10.0	11.0	14.5	---	19.0	16.0
9	---	4.0	4.0	.0	.0	8.0	10.0	11.5	16.5	---	19.0	15.5
10	---	4.5	4.0	1.0	1.0	10.0	8.0	9.0	18.0	---	19.0	14.5
11	---	6.0	2.0	2.0	2.0	11.0	8.5	7.5	18.0	---	19.0	14.0
12	---	5.0	1.0	2.0	3.5	10.0	9.0	8.0	18.5	19.0	18.5	14.0
13	---	2.5	.0	4.0	3.0	6.0	10.0	8.0	18.0	18.0	18.5	16.0
14	---	5.0	3.0	4.0	2.5	6.5	10.5	7.5	18.0	18.0	19.0	16.5
15	---	5.0	4.0	3.0	2.0	7.0	11.0	8.0	18.5	17.5	19.0	16.0
16	---	5.5	2.0	3.0	3.0	5.5	11.0	7.5	18.0	19.0	19.0	16.0
17	---	5.5	2.0	3.0	5.5	5.0	12.0	7.5	17.5	19.0	18.0	14.0
18	---	5.5	4.0	2.0	5.5	5.0	13.5	---	17.0	19.0	18.0	14.0
19	---	5.0	4.0	1.0	6.0	5.5	16.0	9.5	16.0	18.5	17.5	14.0
20	10.5	5.0	4.0	2.0	6.5	6.0	17.0	10.0	15.0	18.5	17.0	14.0
21	10.0	4.0	4.0	2.0	6.5	6.0	16.0	9.5	---	19.0	17.0	14.0
22	10.0	3.0	3.0	2.0	6.5	5.0	16.0	11.5	---	19.0	17.5	14.0
23	6.0	1.0	2.0	2.0	7.0	4.5	16.0	14.0	---	19.0	17.0	13.0
24	6.0	2.0	2.0	2.0	7.0	5.0	14.5	16.0	---	19.0	17.0	12.5
25	10.0	4.0	1.0	2.0	6.0	5.0	13.5	14.5	---	19.0	17.0	12.0
26	10.5	4.0	1.0	.0	4.0	5.0	12.0	13.5	---	19.0	17.0	12.0
27	10.5	4.0	1.0	.0	5.0	5.5	10.5	12.0	---	19.0	19.5	12.0
28	10.0	2.0	1.0	.0	5.0	5.0	---	12.0	---	19.0	19.0	12.5
29	10.0	1.0	.0	.0	5.5	5.0	8.0	13.0	---	19.0	18.5	13.0
30	5.0	.0	.0	.0	---	5.0	6.5	14.5	---	19.0	17.5	13.5
31	5.0	---	1.0	.0	---	5.5	---	15.0	---	19.0	17.0	---

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV					
26...	1130	540	18	26	--
DEC					
14...	1250	325	19	17	--
JAN					
03...	1030	314	12	10	--
21...	1130	311	6	5.0	--
FEB					
29...	1430	363	18	15	--
MAR					
17...	1215	356	24	23	--
APR					
08...	1450	520	176	247	--
29...	1145	1170	368	1160	--
MAY					
27...	1445	2390	425	2740	--
JUL					
11...	1540	1990	382	2050	15
17...	0950	1420	206	790	16
29...	1520	916	53	131	--
AUG					
13...	1440	741	54	108	--
SEP					
02...	1200	394	44	47	--
25...	1210	416	38	43	--

07097000 ARKANSAS RIVER AT PORTLAND, CO--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	OCT 2,79 1300	DEC 5,79 1015	JUN 25,80 1500	JUL 29,80 1435	SEP 2,80 1115
TOTAL CELLS/ML	2200	2800	90	6000	1400
DIVERSITY: DIVISION	1.6	0.5	0.6	0.9	1.0
.CLASS	1.6	0.5	0.6	0.9	1.0
..ORDER	1.8	0.7	1.1	1.0	1.6
...FAMILY	2.8	2.6	1.7	1.1	2.4
....GENUS	2.9	2.9	1.7	1.4	2.4

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	130	6	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	--	-	--	-	--	-	39	3
....DICTYOSPHAERIUM	--	-	69	2	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	*	0	--	-
....WESTELLA	52	2	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	340#	15	--	-	--	-	150	3	610#	44
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	26	1	--	-	13	14	*	0	--	-
...VOLVOCACEAE										
....GONIUM	--	-	--	-	--	-	--	-	210#	15
..ZYGNEMATALES										
...DESMIDIACEAE										
....COSMARIUM	26	1	--	-	--	-	*	0	13	1
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	--	-	69	2	13	14	*	0	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	35	1	--	-	--	-	--	-
....COCCONEIS	--	-	52	2	--	-	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	26	1	520#	19	--	-	*	0	26	2
...DIATOMACEAE										
....DIATOMA	--	-	35	1	--	-	--	-	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	69	2	--	-	*	0	--	-
....FRAGILARIA	52	2	--	-	--	-	*	0	52	4
....HANNAEA	--	-	17	1	--	-	--	-	--	-
....SYNEDRA	52	2	1100#	40	52#	57	150	3	--	-
...GOMPHONEMATACEAE										
....GOMPHONEMA	64	3	120	4	--	-	*	0	39	3
...NAVICULACEAE										
....NAVICULA	300	14	140	5	--	-	*	0	130	9
...NITZSCHIACEAE										
....NITZSCHIA	300	14	220	8	--	-	760	13	250#	18
...SURIRELLACEAE										
....SURIRELLA	13	1	140	5	13	14	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	--	-	--	-	--	-	--	-	13	1
..HORMOGONALES										
...OSCILLATORIACEAE										
....LYNGBYA	--	-	--	-	--	-	250	4	--	-
....OSCILLATORIA	770#	36	170	6	--	-	4500#	75	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	26	1	--	-	--	-	*	0	--	-
....TRACHELOMONAS	--	-	--	-	--	-	*	0	--	-
PYRRHOPHYTA (FIRE ALGAE)										
.DINOPHYCEAE										
..PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	--	-	--	-	--	-	*	0	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

07099100 BEAVER CREEK NEAR PORTLAND, CO

LOCATION.--Lat 38°22'27", long 104°57'49", in NW¼NE¼ sec.26, T.19 S., R.68 W., Fremont County, Hydrologic Unit 11020002, on right bank 80 ft (24 m) downstream from bridge on State Highway 120, 1,500 ft (460 m) upstream from mouth, and 3.4 mi (5.5 km) southeast of Portland.

DRAINAGE AREA.--214 mi^2 (554 km^2).

PERIOD OF RECORD.--November 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,993 ft (1,522 m), from topographic map.

REMARKS.--Records good except those above 300 ft^3/s (8.50 m^3/s), which are fair and those for period of no gage-height record, which are poor. Storage and diversions above station for municipal supply of city of Colorado Springs. Water exported above station for irrigation of a few hundred acres in adjacent basin. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years (water years 1972-80), 8.67 ft^3/s (0.246 m^3/s), 6,280 acre-ft/yr (7.74 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft^3/s (136 m^3/s) Sept. 9, 1973, gage height, 7.56 ft (2.304 m) in gage well, 8.79 ft (2.679 m), from floodmarks, from rating curve extended above 17 ft^3/s (0.5 m^3/s), on basis of slope-area measurement at gage height 4.36 ft (1.329 m); no flow for several days in 1971, 1974, 1975, and 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 530 ft^3/s (15.0 m^3/s) at 1030 May 8, gage height, 4.11 ft (1.253 m); minimum daily, 0.04 ft^3/s (0.001 m^3/s) July 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	.32	.50	.40	.34	.30	.39	88	97	19	.06	.60
2	.24	.30	.50	.40	.33	.30	.48	77	92	14	.11	.45
3	.24	.31	.50	.40	.28	.30	.34	81	87	11	.16	.35
4	.30	2.9	.50	.35	.25	.30	.29	100	80	6.9	.27	.30
5	.30	6.8	.40	.30	.24	.30	.23	102	72	4.4	.23	.28
6	.30	3.6	.40	.30	.24	.29	.20	117	68	3.3	.22	.26
7	.30	.60	.38	.30	.25	.31	.20	175	104	2.4	.20	.24
8	.30	.40	.40	.35	.23	.32	.23	460	107	2.9	.18	.22
9	.35	.35	.40	.38	.23	.32	.24	435	102	3.5	.14	.20
10	.35	.35	.40	.40	.27	.32	.29	390	105	2.2	.14	1.3
11	.30	.35	.40	.40	.26	.35	.38	326	101	1.4	.14	.80
12	.30	4.4	.47	.40	.27	.35	.43	306	97	1.1	26	.70
13	.30	2.2	.43	.40	.25	.37	.39	274	112	.81	1.2	.60
14	.30	.70	.49	.40	.28	.38	.44	242	108	.61	5.6	.50
15	.24	.50	.50	.40	.26	.38	.50	228	98	.50	4.4	.40
16	.24	.40	.50	.40	.24	.45	.55	326	91	.39	1.3	.33
17	.25	.40	.50	.40	.23	.48	.54	340	83	.33	.70	.28
18	.30	.40	.50	.40	.24	.44	.64	306	70	.27	.50	.25
19	.26	.50	.48	.40	.24	.39	.72	259	65	.23	.40	.22
20	.31	.70	.45	.35	.27	.33	.89	210	59	.19	.34	.20
21	.38	.70	.45	.35	.25	.32	.91	181	54	.14	.29	.20
22	.28	.70	.45	.32	.24	.35	1.1	183	46	.12	.26	8.4
23	.21	.60	.45	.30	.30	.47	3.5	236	40	.09	.24	4.4
24	.24	.70	.45	.31	.27	.32	34	262	36	.07	.22	2.5
25	.24	.70	.45	.32	.27	.31	9.4	243	36	.05	.21	1.9
26	.24	.70	.43	.28	.27	.27	3.4	201	34	.05	.20	1.3
27	.24	.70	.40	.25	.27	.41	4.3	163	33	.04	17	.90
28	.29	.70	.40	.25	.27	.30	6.1	133	31	.04	1.6	.70
29	.30	.70	.40	.25	.33	.27	5.8	113	29	.05	.80	.60
30	.35	.60	.40	.25	---	.24	66	107	29	.05	5.6	.50
31	.35	---	.40	.30	---	.33	---	100	---	.05	.90	---
TOTAL	8.84	33.28	13.78	10.71	7.67	10.57	142.88	6764	2166	76.18	69.61	29.88
MEAN	.29	1.11	.44	.35	.26	.34	4.76	218	72.2	2.46	2.25	1.00
MAX	.38	6.8	.50	.40	.34	.48	66	460	112	19	26	8.4
MIN	.21	.30	.38	.25	.23	.24	.20	77	29	.04	.06	.20
AC-FT	18	66	27	21	15	21	283	13420	4300	151	138	59

CAL YR 1979 TOTAL 2463.30 MEAN 6.75 MAX 160 MIN .00 AC-FT 4890
WTR YR 1980 TOTAL 9333.40 MEAN 25.5 MAX 460 MIN .04 AC-FT 18510

NOTE.--NO GAGE-HEIGHT RECORD DEC. 15 TO JAN. 17.

07099215 TURKEY CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°36'42", long 104°53'39", in NW¼SE¼ sec.35, T.33 S., R.67 W., El Paso County, Hydrologic Unit 11020002, on Ft. Carson Military Reservation, on right bank 100 ft (30 m) downstream from State Highway 115 bridge, 0.7 m (1.1 km) downstream from Turkey Canyon, 0.8 mi (1.3 km) upstream from Turkey Creek Ranch, and 9.4 mi (15.1 km) southwest of Fountain.

DRAINAGE AREA.--13.0 mi² (33.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,420 ft (1,957 m), from topographic map.

REMARKS.--Records good except those above 140 ft³/s (3.96 m³/s), which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 519 ft³/s (14.7 m³/s) Aug. 11, 1980, gage height, 3.97 ft (1.210 m) from rating curve extended above 140 ft³/s (3.96 m³/s); no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15 ft³/s (0.42 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 8	1845	170	4.81	3.35	1.021	June 20	2345	24	.68	2.67	0.814
May 15	2330	222	6.29	3.47	1.058	Aug. 11	2145	*519	14.7	3.97	1.210
May 22	1700	72	2.04	3.02	.920	Aug. 14	1730	204	5.78	3.43	1.045
May 29	1845	30	0.85	2.76	.841						

No flow many days.

REVISIONS.--The maximum discharge for water year 1978 has been revised to 121 ft³/s (3.43 m³/s) Aug. 28, gage height, 3.21 ft (0.978 m); revised daily discharge for Aug. 28, 1978, are given below. These figures supersede those published in the report for 1979.

Aug. 28............... 5.2

MONTH	TOTAL	MEAN	MAX	MIN	AC-FT
August 1978	5.38	0.17	5.2	0	11

The maximum discharge for water year 1979 has been revised to 113 ft³/s (3.20 m³/s) July 3, gage height, 3.18 ft (0.969 m). This figure supersedes that published in the report for 1979.

07099215 TURKEY CREEK NEAR FOUNTAIN, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	19	18	.06	.00	.29
2	.00	.00	.00	.00	.00	.00	.00	18	14	.25	.00	.18
3	.00	.00	.00	.00	.00	.00	.00	18	12	.10	.00	.08
4	.00	.00	.00	.00	.00	.00	.00	23	10	.04	.00	.05
5	.00	.00	.00	.00	.00	.00	.00	25	9.0	.00	.00	.05
6	.00	.00	.00	.00	.00	.00	.00	27	8.0	.00	.00	.01
7	.00	.00	.00	.00	.00	.00	.00	35	7.0	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	116	6.5	.00	.00	.14
9	.00	.00	.00	.00	.00	.00	.00	91	5.8	.00	.00	.54
10	.00	.00	.00	.00	.00	.00	.00	40	5.0	.00	.00	.49
11	.00	.00	.00	.00	.00	.00	.10	33	7.0	.00	15	.30
12	.00	.00	.00	.00	.00	.00	.04	31	5.0	.00	5.7	.10
13	.00	.00	.00	.00	.00	.00	.04	30	4.0	.00	3.1	.04
14	.00	.00	.00	.00	.00	.00	.04	20	3.5	.00	7.0	.01
15	.00	.00	.00	.00	.00	.00	.06	41	3.0	.00	3.2	.01
16	.00	.00	.00	.00	.00	.00	.10	140	2.5	.00	1.5	.00
17	.00	.00	.00	.00	.00	.00	.16	107	2.2	.00	1.1	.00
18	.00	.00	.00	.00	.00	.00	.19	70	2.0	.00	.61	.00
19	.00	.00	.00	.00	.00	.00	.53	44	1.8	.00	.48	.00
20	.00	.00	.00	.00	.00	.00	.79	28	2.1	.00	.44	.00
21	.00	.00	.00	.00	.00	.00	.90	21	2.0	.00	.40	.00
22	.00	.00	.00	.00	.00	.00	1.7	32	1.4	.00	.22	.00
23	.00	.00	.00	.00	.00	.00	4.9	46	1.1	.00	.09	.00
24	.00	.00	.00	.00	.00	.00	7.7	14	.79	.00	.06	.00
25	.00	.00	.00	.00	.00	.00	6.2	1.7	.58	.00	.05	.00
26	.00	.00	.00	.00	.00	.00	5.2	.49	.42	.00	.33	.00
27	.00	.00	.00	.00	.00	.00	4.6	.13	.33	.00	1.3	.00
28	.00	.00	.00	.00	.00	.00	4.8	.03	.23	.00	.69	.00
29	.00	.00	.00	.00	.00	.00	7.0	21	.16	.00	.49	.00
30	.00	.00	.00	.00	---	.00	14	22	.09	.00	.53	.00
31	.00	---	.00	.00	---	.00	---	20	---	.00	.50	---
TOTAL	.00	.00	.00	.00	.00	.00	59.05	1134.35	135.50	.45	42.79	2.29
MEAN	.000	.000	.000	.000	.000	.000	1.97	36.6	4.52	.015	1.38	.076
MAX	.00	.00	.00	.00	.00	.00	14	140	18	.25	15	.54
MIN	.00	.00	.00	.00	.00	.00	.00	.03	.09	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	117	2250	269	.9	85	4.5

CAL YR 1979 TOTAL 446.77 MEAN 1.22 MAX 19 MIN .00 AC-FT 886
WTR YR 1980 TOTAL 1374.43 MEAN 3.76 MAX 140 MIN .00 AC-FT 2730

07099220 LITTLE TURKEY CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°37'37", long 104°51'55", in SW¼NW¼ sec.26, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on Fort Carson Military Reservation, at right upstream end of bridge on military road No. 11, 1.0 mi (1.6 km) downstream from State Highway 115, 2.8 mi (4.5 km) upstream from mouth, and 9.1 mi (14.6 km) southwest of Fountain.

DRAINAGE AREA.--9.59 mi^2 (24.84 km^2).

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,395 ft (1,949 m), from topographic map.

REMARKS.--Records good except those for 1978 and 1979 water year, which are fair, and those above 70 ft^3/s (1.98 m^3/s), which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 147 ft^3/s (4.16 m^3/s) May 8, 1980; maximum gage height, 3.84 ft (1.170 m) May 7, 1980; no flow most of time each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10 ft^3/s (0.28 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 7	2245	-	-	*3.84	1.170	June 10	1530	17	0.48	1.21	0.369
May 8	0300	*147	4.16	-	-	June 20	2400	14	0.40	1.13	0.344
May 15	2230	93	2.63	2.78	0.847	Aug. 14	1645	82	2.32	2.56	0.780
May 23	1900	46	1.30	1.85	0.564	Aug. 26	2245	70	1.98	2.33	0.710

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	.00	.00	.00	.00
2								---	.00	.00	.00	.00
3								---	.00	.00	.00	.00
4								---	.00	.00	.00	.00
5								---	.00	.00	.00	.00
6								---	.00	.00	.00	.00
7								---	.11	.00	.00	.00
8								---	.00	.00	.00	.00
9								---	.00	.00	.00	.00
10								---	.00	.00	.00	.00
11								---	.00	.00	.00	.00
12								---	.00	.00	.00	.00
13								---	.00	.00	.00	.00
14								---	.00	.00	.00	.00
15								---	.00	.00	.00	.00
16								---	.00	.00	.00	.00
17								---	.00	.00	.00	.00
18								---	.00	.00	.00	.00
19								.00	.00	.00	.00	.00
20								.00	.00	.00	.00	.00
21								.19	.00	.00	.00	.00
22								.01	.00	.00	.00	.00
23								.00	.00	.00	.00	.00
24								.00	.00	.00	.00	.00
25								.00	.00	.00	.00	.00
26								.00	.00	.00	.00	.00
27								.00	.00	.00	.00	.00
28								.00	.00	.00	.12	.00
29								.00	.00	.00	.27	.00
30								.00	.00	.00	.00	.00
31								.00	---	.00	.00	---
TOTAL								---	.11	.00	.39	.00
MEAN								---	.004	.000	.013	.000
MAX								---	.11	.00	.27	.00
MIN								---	.00	.00	.00	.00
AC-FT								---	.2	.00	.8	.00

07099220 LITTLE TURKEY CREEK NEAR FOUNTAIN, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUC	SEP
1	.00	.00	.00	.00	.00	.00	.00	1.5	3.2	.08	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	1.5	2.7	.20	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	1.5	3.4	.60	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	1.4	3.5	.55	.00	.00
5	.00	.00	.00	.00	.00	.00	.09	1.4	3.3	.50	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	1.4	2.7	.55	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	1.3	2.2	.27	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	1.3	2.5	.05	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	1.3	3.4	.04	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	1.3	4.1	.06	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	1.3	3.9	.03	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	1.3	3.1	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	1.3	2.5	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	1.1	1.9	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	1.1	1.2	.01	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	1.0	.92	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	1.0	.71	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	1.0	.56	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	1.0	.41	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.19	1.1	.31	.00	.00	.00
21	.00	.00	.00	.00	.00	.04	1.5	1.2	.25	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	1.4	1.1	.21	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	1.5	1.1	.17	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	1.5	1.1	.11	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	1.5	1.2	.07	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	1.3	1.1	.02	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	1.3	1.1	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	1.3	1.0	.04	.00	.00	.00
29	.00	.00	.00	.00	---	.00	1.4	1.1	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	1.5	1.2	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	4.5	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.04	14.48	40.8	47.38	2.94	.00	.00
MEAN	.000	.000	.000	.000	.000	.001	.48	1.32	1.58	.095	.000	.000
MAX	.00	.00	.00	.00	.00	.04	1.5	4.5	4.1	.60	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	1.0	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.08	29	81	94	5.8	.00	.00

WTR YR 1979 TOTAL 105.64 MEAN .29 MAX 4.5 MIN .00 AC-FT 210

07099220 LITTLE TURKEY CREEK NEAR FOUNTAIN, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	15	19	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	17	17	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	17	13	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	17	11	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	17	9.1	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	21	8.1	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	29	6.7	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	108	6.0	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	67	5.6	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	47	5.0	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	38	6.5	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	33	4.8	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	30	4.0	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	28	3.3	.00	3.4	.00
15	.00	.00	.00	.00	.00	.00	.00	40	2.6	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	58	2.3	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	45	2.3	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	38	2.0	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	33	1.7	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	31	1.9	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	33	2.4	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	39	.91	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	42	.34	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	1.2	43	.07	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	2.4	38	.02	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	3.1	34	.00	.00	2.8	.00
27	.00	.00	.00	.00	.00	.00	2.7	30	.00	.00	.68	.00
28	.00	.00	.00	.00	.00	.00	3.1	28	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	4.9	26	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	14	24	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	22	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	31.40	1088	135.64	.00	6.88	.00
MEAN	.000	.000	.000	.000	.000	.000	1.05	35.1	4.52	.000	.22	.000
MAX	.00	.00	.00	.00	.00	.00	14	108	19	.00	3.4	.00
MIN	.00	.00	.00	.00	.00	.00	.00	15	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	62	2160	269	.00	14	.00

CAL YR 1979 TOTAL 105.64 MEAN .29 MAX 4.5 MIN .00 AC-FT 210
WTR YR 1980 TOTAL 1261.92 MEAN 3.45 MAX 108 MIN .00 AC-FT 2500

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO

LOCATION.--Lat 38°27'37", long 104°49'19", in NW¼NE¼ sec.30, T.18 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on Ft. Carson Military Reservation, on left bank, 0.5 mi (0.8 km) west of intersection of military roads 9 and 1, 1.6 mi (2.6 km) upstream from Teller Reservoir Dam and 2.4 mi (3.9 km) northeast of Stone City.

DRAINAGE AREA.--62.5 mi² (162 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,520 ft (1,682 m) from topographic map.

REMARKS.--Records good except those above 100 ft³/s (2.83 m³/s), which are fair. Diversions above gage for irrigation, amount unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft³/s (91.8 m³/s) June 20, 1980, gage height, 11.27 ft (3.435 m), from rating curve extended above 100 ft³/s (2.83 m³/s) on the basis of slope-area measurements at gage heights 8.04 ft (2.450 m) and 11.27 ft (3.435 m); no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20 ft³/s (0.57 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 8	0015	2,390	67.7	10.68	3.255	Aug. 12	0245	224	6.34	7.18	2.188
May 16	unknown	unknown	unknown	unknown	unknown	Aug. 14	2130	278	7.87	7.62	2.322
June 10	2045	545	15.4	8.35	2.545	Aug. 27	0400	134	3.79	6.47	1.972
June 20	2400	*3,240	91.8	11.27	3.435	Sept. 8	1900	147	4.16	6.55	1.996

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.02	.00	.00	.28	.25	.32	18	36	1.8	.51	.70
2	.03	.02	.00	.00	.35	.28	.32	22	33	4.2	.51	.70
3	.03	.02	.00	.00	.31	.33	.32	23	32	2.8	.47	.60
4	.05	.02	.00	.00	.31	.33	.35	28	27	1.6	.47	.60
5	.05	.03	.00	.00	.31	.28	.35	32	23	.98	.47	.55
6	.04	.02	.00	.00	.31	.30	.35	35	21	.74	.55	.51
7	.03	.02	.00	.00	.31	.31	.36	47	18	.65	.43	.51
8	.03	.02	.00	.00	.25	.29	.35	282	18	.60	.39	10
9	.02	.02	.00	.00	.31	.29	.35	174	20	.57	.43	.90
10	.04	.01	.00	.00	.31	.35	.39	130	50	.60	.43	.75
11	.03	.00	.00	.00	.28	.37	.39	90	30	.60	.39	.70
12	.03	.00	.00	.00	.31	.35	.39	70	21	.58	17	.65
13	.03	.00	.00	.01	.28	.27	.39	60	20	.55	2.6	.65
14	.03	.00	.00	.03	.28	.28	.39	50	14	.60	17	.60
15	.03	.00	.00	.03	.28	.31	.39	80	8.2	.54	5.2	.60
16	.03	.00	.00	.03	.26	.31	.41	200	6.6	.51	.87	.60
17	.03	.00	.00	.03	.23	.26	.39	140	5.4	.55	.60	.60
18	.03	.00	.00	.04	.29	.35	.45	110	5.0	.56	.65	.55
19	.03	.00	.00	.04	.31	.35	.47	100	4.6	.60	.51	.55
20	.03	.00	.00	.05	.31	.31	.47	90	35	.60	.44	.55
21	.04	.00	.00	.07	.35	.35	.50	73	169	.60	.43	.50
22	.04	.00	.00	.07	.35	.28	.60	64	28	.59	.39	.50
23	.04	.00	.00	.08	.30	.28	.72	63	19	.55	.39	.50
24	.04	.00	.00	.12	.31	.28	1.2	57	7.9	.55	.43	.50
25	.04	.00	.00	.14	.29	.28	.98	44	4.7	.55	.39	.50
26	.04	.00	.00	.19	.31	.31	.74	33	3.5	.55	.35	.50
27	.04	.00	.00	.19	.31	.33	.70	31	2.9	.55	15	.50
28	.03	.00	.00	.25	.33	.35	.70	33	2.5	.53	.87	.50
29	.04	.00	.00	.25	.30	.35	.82	33	2.2	.51	.81	.50
30	.04	.00	.00	.25	---	.35	3.3	33	2.1	.51	.75	.50
31	.03	---	.00	.31	---	.35	---	36	---	.47	.70	---
TOTAL	1.07	.20	.00	2.18	8.73	9.68	17.86	2281	669.6	26.19	70.43	26.87
MEAN	.035	.007	.000	.070	.30	.31	.60	73.6	22.3	.84	2.27	.90
MAX	.05	.03	.00	.31	.35	.37	3.3	282	169	4.2	17	10
MIN	.02	.00	.00	.00	.23	.25	.32	18	2.1	.47	.35	.50
AC-FT	2.1	.4	.00	4.3	17	19	35	4520	1330	52	140	53

CAL YR 1979 TOTAL 208.83 MEAN .57 MAX 21 MIN .00 AC-FT 414
WTR YR 1980 TOTAL 3113.81 MEAN 8.51 MAX 282 MIN .00 AC-FT 6180

07099230 TURKEY CREEK ABOVE TELLER RESERVOIR NEAR STONE CITY, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE (DEG C)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
MAY 05...	1330	33	321	9.5	2.40	K100	2600	130	46	36	9.7	14
JUN 20...	2330	3240	370	--	--	--	--	--	--	--	--	--

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
MAY 05...	.5	2.6	84	57	6.5	.7	17	196	.27	17.7	850	.38
JUN 20...	--	--	--	--	--	--	--	--	--	--	140	.00

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)
MAY 05...	.38	.06	.03	.9	1.9	.58	2.00	1.4	.54	.03	.10
JUN 20...	--	--	--	--	--	--	--	--	15.0	--	--

DATE	TIME	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
MAY 05...	1330	910	3	300	0	70	0	10	24	18000
JUN 20...	2330	73000	22	4400	10	180	10	210	280	180000

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)
MAY 05...	100	21	720	7	.1	2	18	2	0
JUN 20...	--	710	9000	--	.3	3	81	6	4

DATE	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)
MAY 05...	120	7.5	37	11	54	2.9	36	2.8	35
JUN 20...	1500	--	--	--	--	--	--	--	--

K BASED ON NON-IDEAL COLONY COUNT.

07099233 TELLER RESERVOIR NEAR STONE CITY, CO

LOCATION.--Lat 38°26'33", long 104°49'31", in SE¼NW¼ sec.31, T.18 S., R.66 W., in Pueblo County, Hydrologic Unit 11020002, at left upstream end of dam on Turkey Creek on Fort Carson Military Reservation, 1.4 mi (2.3 km) upstream from Booth Gulch, and 2.0 mi (3.2 km) east of Stone City.

DRAINAGE AREA.--71.5 mi² (185 km²).

PERIOD OF RECORD.--September 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,453 ft (1,662.1 m), from topographic map.

REMARKS.--Records good except those Sept. 7, 1978, to June 10, 1979, and Mar. 25 to May 19, 1980, which are fair. Reservoir is formed by an earthfill dam completed in about 1908. Maximum capacity of reservoir is 1,780 acre-ft (2.2 hm³) at an uncontrolled spillway elevation of about 88 ft (26.8 m), 1980 survey. There is no controlled outlet from reservoir, however, considerable leakage occurs. Reservoir is used for recreation and for amphibious training for Fort Carson.

EXTREMES FOR CURRENT YEAR.--Maximum contents recorded for period Sept. 7, 1978 to Sept. 30, 1980, 2,210 acre-ft (2.72 hm³) at 0200 June 21, 1980, elevation, 90.15 ft (27.478 m) from capacity curve extended above 88 ft (26.8 m); no contents May 1 to June 5, 1979.

Capacity table (elevation, in feet, and total contents, in acre-feet)

65.6	0
90.0	2,176

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												---
2												---
3												---
4												---
5												---
6												---
7												65
8												64
9												63
10												62
11												62
12												61
13												60
14												59
15												59
16												58
17												58
18												57
19												56
20												55
21												55
22												54
23												54
24												54
25												53
26												53
27												53
28												52
29												52
30												52
31												---
MAX												---
MIN												---

07099233 TELLER RESERVOIR NEAR STONE CITY, CO--Continued

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	38	32	31	28	23	20	0	0	159	136	107
2	50	38	32	30	28	23	20	0	0	159	135	106
3	50	37	32	30	28	23	20	0	0	158	134	105
4	50	37	32	30	28	23	19	0	0	158	132	104
5	50	36	32	30	28	23	18	0	0	158	131	102
6	49	36	32	30	28	23	17	0	10	157	130	101
7	49	35	32	30	28	22	16	0	15	157	129	100
8	49	35	32	30	28	22	15	0	20	156	128	100
9	48	34	32	30	28	22	15	0	30	156	126	98
10	48	34	31	30	28	22	14	0	34	154	125	97
11	48	34	31	29	28	22	13	0	42	152	124	97
12	47	33	31	29	28	22	12	0	72	151	123	95
13	47	33	31	29	27	22	11	0	92	150	122	94
14	46	33	31	29	27	22	11	0	114	149	122	96
15	46	33	31	29	27	22	10	0	129	150	122	96
16	45	33	31	29	27	22	9	0	140	150	122	95
17	45	33	31	29	27	22	9	0	148	150	121	94
18	44	33	31	29	26	21	9	0	153	149	120	93
19	43	33	31	29	26	21	9	0	155	148	119	93
20	43	33	31	29	26	21	8	0	158	147	118	92
21	42	33	31	29	26	21	8	0	159	146	117	91
22	42	33	31	29	26	21	8	0	159	145	116	91
23	41	33	31	29	25	21	8	0	159	144	115	90
24	41	33	31	28	25	21	7	0	159	144	114	89
25	40	33	31	28	25	21	7	0	159	143	113	89
26	40	33	31	28	25	21	6	0	156	142	112	88
27	40	33	31	28	24	21	5	0	156	141	112	87
28	39	33	31	28	24	21	3	0	155	140	111	87
29	39	33	31	28	---	21	2	0	160	139	110	86
30	38	33	31	28	---	21	1	0	159	138	109	86
31	38	---	31	28	---	21	---	0	---	137	108	---
MAX	51	38	32	31	28	23	20	.00	160	159	136	107
MIN	38	33	31	28	24	21	1.0	.00	.00	137	108	86

WTR YR 1979 MAX 160 MIN .00

07099233 TELLER RESERVOIR NEAR STONE CITY, CO--Continued

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	70	61	56	50	43	31	100	1870	1720	1420	1260
2	84	69	61	56	49	42	31	150	1860	1720	1410	1250
3	84	69	61	56	49	42	31	190	1860	1720	1400	1250
4	83	68	61	56	49	41	31	250	1850	1720	1390	1240
5	83	68	61	56	49	41	30	310	1840	1710	1380	1230
6	83	67	60	56	49	40	30	380	1830	1700	1370	1220
7	82	67	61	55	49	40	30	470	1820	1690	1360	1220
8	81	66	60	54	48	39	30	1030	1820	1670	1350	1220
9	81	66	60	54	48	39	30	1290	1820	1670	1340	1220
10	81	65	60	54	48	38	29	1550	1850	1650	1340	1220
11	81	65	60	54	48	38	29	1730	1850	1640	1330	1220
12	80	64	59	54	48	38	29	1800	1830	1630	1350	1220
13	79	64	59	54	48	37	29	1800	1820	1620	1340	1210
14	79	63	58	54	47	37	29	1790	1800	1610	1360	1210
15	78	63	58	54	47	36	29	1800	1790	1590	1370	1200
16	77	63	58	54	47	36	29	1970	1780	1580	1360	1200
17	77	63	58	53	47	36	28	1950	1780	1570	1360	1180
18	76	62	58	53	47	35	28	1940	1770	1560	1350	1180
19	76	62	57	53	46	35	28	1930	1760	1540	1340	1170
20	75	64	57	52	46	35	28	1920	1910	1530	1330	1160
21	75	63	57	52	46	34	28	1920	1860	1520	1320	1150
22	75	63	57	52	45	34	27	1930	1820	1510	1310	1140
23	74	63	57	52	45	33	27	1930	1800	1500	1300	1140
24	74	62	57	51	44	33	27	1930	1790	1480	1300	1130
25	73	62	57	51	44	33	27	1920	1780	1480	1290	1120
26	73	62	57	51	44	32	27	1910	1780	1470	1280	1120
27	72	62	57	51	43	32	26	1900	1760	1460	1300	1120
28	72	62	57	50	43	32	26	1890	1750	1450	1290	1110
29	71	61	57	50	43	32	26	1880	1740	1440	1280	1110
30	71	61	56	50	---	31	60	1880	1740	1430	1270	1100
31	70	---	56	50	---	31	---	1880	---	1420	1270	---
MAX	85	70	61	56	50	43	60	1970	1910	1720	1420	1260
MIN	70	61	56	50	43	31	26	100	1740	1420	1270	1100

WTR YR 1980 MAX 1970 MIN 26

07099235 TURKEY CREEK NEAR STONE CITY. CO

LOCATION.--Lat 38°26'27". long 104°49'31". in SE¼NW¼ sec.31. T.18 S.. R.66 W.. Pueblo County. Hydrologic Unit 11020002. on Ft. Carson Military Reservation. on left bank. 0.1 mi (0.2 km) downstream from Teller Reservoir Dam. 1 mi (1.6 km) upstream from Military road No. 11. and 2.1 mi (3.4 km) southeast of Stone City.

DRAINAGE AREA.--71.5 mi² (185 km²).

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage 5.400 ft (1.646 m). from topographic map.

REMARKS.--Records fair. Flow regulated by Teller Reservoir 0.1 mi (0.2 km) upstream. Gage records seepage from reservoir. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. 2.6 ft³/s (0.074 m³/s) June 20. 1980. gage height. 0.63 ft (0.192 m); minimum daily. 0.01 ft³/s (0.001 m³/s) on many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge. 2.6 ft³/s (0.074 m³/s) at 2300 June 20. gage height. 0.63 ft (0.192 m); minimum daily. 0.03 ft³/s (0.001 m³/s) on many days.

REVISIONS.--The maximum discharge for water year 1979 has been revised to 0.35 ft³/s (0.010 m³/s) at 1845 July 24. 1979. gage height. 0.42 ft (0.128 m). this figure supersedes that published in the report for 1979.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.04	.04	.04	.04	.03	.03	.06	2.0	1.8	1.0	1.3
2	.03	.04	.04	.04	.05	.03	.03	.05	2.0	1.7	1.0	1.3
3	.03	.05	.04	.04	.05	.03	.03	.05	2.0	1.7	1.0	1.2
4	.04	.05	.04	.04	.06	.03	.03	.06	2.0	1.7	1.0	1.2
5	.04	.05	.04	.04	.05	.03	.03	.07	2.0	1.7	1.0	1.2
6	.04	.05	.04	.04	.04	.03	.03	.08	1.9	1.6	1.0	1.2
7	.04	.04	.04	.04	.04	.03	.03	.09	1.9	1.6	1.0	1.2
8	.04	.05	.04	.04	.04	.03	.03	.47	1.9	1.6	1.0	1.3
9	.04	.05	.04	.04	.04	.03	.03	1.1	1.9	1.6	1.0	1.2
10	.04	.05	.04	.04	.04	.03	.04	1.7	1.9	1.6	1.0	1.2
11	.04	.05	.04	.04	.04	.03	.04	1.8	1.9	1.5	1.2	1.2
12	.04	.05	.04	.04	.04	.04	.04	2.0	1.9	1.4	1.3	1.2
13	.05	.05	.04	.04	.04	.03	.04	2.0	1.9	1.3	1.2	1.2
14	.04	.05	.04	.04	.04	.03	.04	2.1	1.9	1.2	1.4	1.1
15	.04	.05	.04	.04	.04	.04	.04	2.1	1.9	1.1	1.7	1.1
16	.04	.04	.04	.04	.04	.04	.04	2.1	1.9	1.1	1.6	1.1
17	.04	.04	.04	.04	.04	.04	.04	2.2	1.9	1.1	1.5	1.1
18	.04	.04	.04	.04	.04	.04	.04	2.0	1.9	1.2	1.5	1.1
19	.04	.04	.04	.04	.04	.04	.04	2.0	2.0	1.1	1.5	1.1
20	.04	.04	.04	.04	.04	.04	.04	2.0	2.0	1.1	1.4	1.1
21	.04	.04	.04	.04	.04	.04	.04	2.1	1.9	1.1	1.4	1.1
22	.04	.04	.04	.04	.03	.03	.04	2.2	1.8	1.2	1.4	1.0
23	.04	.04	.04	.04	.03	.03	.05	2.3	1.7	1.2	1.4	1.0
24	.04	.04	.04	.04	.03	.03	.06	2.3	1.7	1.3	1.3	1.0
25	.05	.04	.04	.04	.03	.03	.05	2.2	1.8	1.3	1.3	1.0
26	.04	.04	.04	.04	.03	.03	.05	2.1	1.8	1.2	1.3	1.0
27	.04	.04	.04	.04	.03	.03	.05	2.0	1.8	1.1	1.3	1.0
28	.05	.04	.04	.04	.03	.03	.05	2.0	1.8	1.1	1.3	1.0
29	.05	.04	.04	.04	.03	.03	.05	2.0	1.8	1.1	1.4	1.0
30	.05	.04	.04	.04	---	.03	.09	2.0	1.8	1.1	1.3	1.0
31	.05	---	.04	.04	---	.03	---	2.0	---	1.0	1.3	---
TOTAL	1.27	1.32	1.24	1.24	1.13	1.01	1.24	47.23	56.6	41.4	39.0	33.7
MEAN	.041	.044	.040	.040	.039	.033	.041	1.52	1.89	1.34	1.26	1.12
MAX	.05	.05	.04	.04	.06	.04	.09	2.3	2.0	1.8	1.7	1.3
MIN	.03	.04	.04	.04	.03	.03	.03	.05	1.7	1.0	1.0	1.0
AC-FT	2.5	2.6	2.5	2.5	2.2	2.0	2.5	94	112	82	77	67

CAL YR 1979 TOTAL 11.44 MEAN .031 MAX .08 MIN .01 AC-FT 23
WTR YR 1980 TOTAL 226.38 MEAN .62 MAX 2.3 MIN .03 AC-FT 449

NOTE.--NO GAGE-HEIGHT RECORD DEC. 25 TO FEB. 1.

07099350 PUEBLO RESERVOIR NEAR PUEBLO, CO

LOCATION.--Lat 38°16'15", long 104°43'30", in NE¼ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, at dam on Arkansas River 7 mi (11 km) west of Pueblo.

DRAINAGE AREA.--4,669 mi^2 (12,093 km^2).

PERIOD OF RECORD.--January 1974 to current year.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929, (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD.

REMARKS.--Reservoir is formed by concrete and earthfill dam. Storage began Jan. 9, 1974; dam completed in August 1975. Capacity, 357,700 acre-ft (441 hm^3) at elevation 4,898.70 ft (1,493.124 m), crest of spillway. Dead storage, 3,730 acre-ft (4.60 hm^3) below elevation 4,764.00 ft (1,452.067 m), invert of river outlet. Reservoir is terminal reservoir of the Fryingpan-Arkansas project and is used to provide flood control, municipal and industrial supplies, and to fulfill irrigation requirements in the Arkansas River valley. Figures given are total contents.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 105,480 acre-ft (130 hm^3) May 17, 1980, elevation, 4,835.60 ft (1,473.909 m); minimum since appreciable storage was attained, 22,680 acre-ft (28.0 hm^3) Nov. 13, 1974, elevation, 4,790.50 ft (1,460.144 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 105,480 acre-ft (130 hm^3) May 17, elevation, 4,835.60 ft (1,473.909 m); minimum, 34,050 acre-ft (42.0 hm^3) Nov. 7, elevation, 4,799.48 ft (1,462.881 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.	4,807.68	46,270	-
Oct. 31.	4,799.77	34,440	-11,830
Nov. 30.	4,802.85	38,840	+4,400
Dec. 31.	4,815.01	59,050	+20,210
CAL YR 1979			+10,170
Jan. 31.	4,823.34	75,820	+16,770
Feb. 29.	4,828.42	87,400	+11,580
Mar. 31.	4,831.26	94,290	+6,890
Apr. 30.	4,830.60	92,660	-1,630
May 31.	4,831.99	96,120	+3,460
June 30.	4,831.87	95,820	-300
July 31.	4,826.23	82,260	-13,560
Aug. 31.	4,800.40	35,320	-46,940
Sept. 30.	4,799.96	34,700	-620
WTR YR 1980			-11,570

07099400 ARKANSAS RIVER ABOVE PUEBLO, CO

LOCATION.--Lat 38°16'17", long 104°43'06", in NE¼NE¼ sec.36, T.20 S., R.66 W., Pueblo County, Hydrologic Unit 11020002, on left bank 450 ft (140 m) downstream from headgate of West Pueblo ditch, 0.4 mi (0.6 km) downstream from Pueblo Dam, and 7 mi (11 km) west of Pueblo.

DRAINAGE AREA.--4,670 mi² (12,095 km²).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,740 ft (1,445 m), from topographic map. Prior to Mar. 23, 1967, at site 730 ft (220 m) upstream at datum 1.23 ft (0.375 m) higher. May 24, 1974, to Feb. 24, 1975, at site 2,000 ft (610 m) downstream at different datum.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, diversions above station for irrigation of about 88,000 acres (356 km²) and return flow from irrigated areas. Flow completely regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--8 years (water years 1966-73), 643 ft³/s (18.21 m³/s), 465,900 acre-ft/yr (574 hm³/yr), prior to completion of Pueblo Dam; 6 years (1975-80), 604 ft³/s (17.11 m³/s), 437,600 acre-ft/yr (540 hm³/yr) subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s (286 m³/s) Aug. 1, 1966, gage height, 9.4 ft (2.87 m), from floodmarks, present site and datum, from rating curve extended above 1,600 ft³/s (45 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 28 ft³/s (0.79 m³/s) May 11, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,480 ft³/s (155 m³/s) at 2230 June 10, gage height, 7.32 ft (2.231 m); minimum daily, 47 ft³/s (1.33 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	313	235	55	55	66	97	257	2420	2220	3130	1140	646
2	296	254	55	55	66	97	296	2770	2120	2790	1180	440
3	288	274	55	56	66	97	271	2170	2120	2010	1230	440
4	299	274	57	57	66	97	260	1300	2320	3710	1170	328
5	324	292	57	57	66	97	271	1950	2480	2720	1120	268
6	316	320	56	58	136	97	296	1440	3190	2130	1170	257
7	427	324	58	60	301	96	352	2790	3720	2170	1180	232
8	555	320	58	60	168	97	380	1890	3830	2250	1140	282
9	580	299	58	54	168	97	306	1860	4370	2190	1110	396
10	555	285	58	47	168	97	271	3420	4780	2130	1040	490
11	560	285	60	48	168	158	264	3480	5340	1960	1030	535
12	560	285	60	49	168	348	268	2900	5290	1750	1220	590
13	555	296	61	49	168	348	254	1920	5280	1730	1560	575
14	550	316	62	50	168	344	235	2110	5290	1720	1490	535
15	540	306	62	51	168	445	271	1830	5260	1750	1060	505
16	320	299	63	52	170	575	380	655	5230	1760	1370	418
17	226	299	60	54	170	520	376	2470	5220	1430	1380	328
18	208	302	60	55	170	368	332	3250	5230	1180	1350	336
19	218	302	61	55	164	324	215	3890	5200	1050	1260	432
20	220	306	75	56	140	332	200	4560	4750	1080	1250	432
21	218	306	63	57	124	336	260	4390	5340	1110	1170	400
22	238	306	54	58	124	306	433	2370	5260	1210	1160	472
23	336	278	55	55	126	400	949	1920	4590	1320	1160	530
24	306	268	56	50	128	525	1250	2540	4160	1270	1160	440
25	285	409	57	52	105	364	2550	2980	4040	1200	1160	388
26	285	409	61	60	96	260	2070	2850	4160	1160	1280	422
27	257	364	65	61	96	250	1440	2680	4270	1160	1330	468
28	247	422	57	62	96	257	1480	1890	3900	1160	1240	481
29	247	340	55	63	97	278	1480	1820	3880	1150	1010	400
30	229	157	55	63	---	268	1650	2600	3740	1150	756	324
31	223	---	55	65	---	238	---	2690	---	1150	756	---
TOTAL	10781	9132	1824	1724	3917	8213	19317	77805	126580	53680	36632	12790
MEAN	348	304	58.8	55.6	135	265	644	2510	4219	1732	1182	426
MAX	580	422	75	65	301	575	2550	4560	5340	3710	1560	646
MIN	208	157	54	47	66	96	200	655	2120	1050	756	232
AC-FT	21380	18110	3620	3420	7770	16290	38320	154300	251100	106500	72660	25370

CAL YR 1979 TOTAL 271863 MEAN 745 MAX 4460 MIN 54 AC-FT 539200
WTR YR 1980 TOTAL 362395 MEAN 990 MAX 5340 MIN 47 AC-FT 718800

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO

LOCATION.--Lat 38°51'17", long 104°52'39", in SE¼SW¼ sec.3, T.14 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 200 ft (61 m) upstream from diversion to city of Colorado Springs, 0.5 mi (0.8 km) east of bridge on U.S. Highway 24 near west city limits of Colorado Springs, and 1.0 mi (1.6 km) downstream from Sutherland Creek.

DRAINAGE AREA.--103 mi² (267 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1958 to current year.

GAGE.--Water-stage recorder and Parshall flume with overflow weirs. Altitude of gage is 6,110 ft (1,862 m), from topographic map.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation and municipal use, and at times, transbasin diversion from Beaver Creek drainage and transmountain diversions from Colorado River basin.

AVERAGE DISCHARGE.--22 years, 12.6 ft³/s (0.357 m³/s), 9,130 acre-ft/yr (11.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,630 ft³/s (74.5 m³/s) Aug. 4, 1964, gage height, 5.27 ft (1.606 m), from rating curve extended above 190 ft³/s (5.4 m³/s), on basis of slope-area measurements at gage heights 3.87, 4.52, and 5.27 ft (1.180, 1.378, and 1.606 m); minimum daily, 2.0 ft³/s (0.057 m³/s) Jan. 24, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 338 ft³/s (9.57 m³/s) at 2245 May 15, gage height, 3.90 ft (1.189 m); minimum daily, 4.0 ft³/s (0.11 m³/s) Jan. 30-Feb. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	5.5	9.1	4.0	7.5	9.2	162	97	31	18	16
2	11	12	6.0	8.5	4.0	7.9	8.6	119	87	57	22	15
3	13	12	7.0	7.7	5.2	7.9	8.3	136	78	57	18	17
4	13	12	8.0	7.8	8.6	7.8	8.9	126	71	48	16	17
5	12	12	8.0	7.9	8.0	8.7	9.5	135	64	45	15	17
6	11	12	8.0	7.8	8.0	8.0	9.5	167	62	42	14	18
7	11	12	7.0	5.9	8.1	7.8	13	198	75	40	18	18
8	11	12	6.0	6.8	7.0	7.4	9.9	259	87	38	30	20
9	12	12	6.0	8.2	6.8	7.2	8.4	267	103	38	26	27
10	12	12	6.0	8.4	8.3	7.3	8.4	241	101	38	18	22
11	11	12	6.0	7.0	7.3	8.3	9.1	184	95	40	25	21
12	12	12	5.5	8.6	7.9	7.3	7.7	205	88	42	15	19
13	12	12	5.0	8.5	7.9	6.5	8.5	180	83	42	16	19
14	12	12	6.7	8.7	7.4	6.9	10	180	73	40	30	20
15	12	11	8.7	9.3	7.4	7.4	11	212	71	35	19	20
16	13	11	7.6	8.5	7.0	7.5	9.6	163	70	33	19	20
17	13	12	7.7	8.0	7.3	7.5	8.9	155	53	31	16	20
18	12	13	7.5	8.4	8.5	7.9	9.4	168	41	30	16	20
19	12	13	7.1	7.7	8.6	7.6	11	168	42	30	15	18
20	12	13	7.3	7.1	8.0	7.1	12	173	39	40	12	18
21	14	11	7.3	8.2	7.8	7.3	14	178	40	50	11	23
22	13	8.0	7.5	7.3	7.7	7.4	15	188	39	40	12	22
23	13	7.0	7.4	7.5	8.6	8.3	27	206	37	35	12	23
24	13	7.0	6.5	9.1	9.1	7.4	44	203	37	30	11	23
25	13	7.5	7.7	8.0	7.6	7.6	31	182	35	35	15	24
26	12	8.0	7.5	4.4	7.2	7.4	33	158	34	30	21	17
27	12	8.0	7.3	4.2	7.8	9.1	32	145	33	25	19	15
28	12	7.0	7.6	4.1	8.0	7.9	35	134	31	23	16	15
29	12	6.0	5.6	4.1	7.8	7.8	56	122	30	21	14	13
30	12	5.0	6.0	4.0	---	7.7	163	113	29	20	13	11
31	12	---	7.6	4.0	---	7.5	---	108	---	19	17	---
TOTAL	376	314.5	214.6	224.8	216.9	236.9	640.9	5335	1825	1125	539	568
MEAN	12.1	10.5	6.92	7.25	7.48	7.64	21.4	172	60.8	36.3	17.4	18.9
MAX	14	13	8.7	9.3	9.1	9.1	163	267	103	57	30	27
MIN	11	5.0	5.0	4.0	4.0	6.5	7.7	108	29	19	11	11
AC-FT	746	624	426	446	430	470	1270	10580	3620	2230	1070	1130

CAL YR 1979 TOTAL 5184.9 MEAN 14.2 MAX 110 MIN 4.0 AC-FT 10280
WTR YR 1980 TOTAL 11616.6 MEAN 31.7 MAX 267 MIN 4.0 AC-FT 23040

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1974 to current year.

REMARKS.--Previously unpublished water-quality records for the period December 1974 to current year are published in this report.

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
DEC											
02...	1215	5.8	580	8.5	3.0	--	--	--	160	0	47
31...	1200	7.3	371	--	.0	--	--	--	140	0	41
JAN											
27...	1230	4.3	485	--	1.0	--	--	--	180	0	54
APR											
30...	1150	6.9	370	8.5	7.0	11.2	1.00	20	--	--	--
MAY											
29...	1145	18	242	7.6	5.0	10.0	4.40	1170	--	--	--
JUN											
24...	1630	17	224	7.8	17.0	7.4	1.80	--	--	--	--
JUL											
30...	1200	7.0	380	--	17.0	7.4	1.20	240	140	0	43
AUG											
27...	1500	7.3	385	8.1	16.0	7.6	1.00	--	--	--	--
SEP											
30...	1150	5.5	420	8.2	8.0	9.3	1.10	700	--	--	--

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
DEC											
02...	9.8	30	1.0	4.6	194	0	159	22	22	2.9	15
31...	7.9	24	.9	3.7	170	4	146	20	15	2.8	15
JAN											
27...	11	32	1.0	4.5	227	--	186	25	24	2.8	15
APR											
30...	--	--	--	--	--	--	--	--	--	--	--
MAY											
29...	--	--	--	--	--	--	--	--	--	--	--
JUN											
24...	--	--	--	--	--	--	--	--	--	--	--
JUL											
30...	7.3	--	--	--	172	--	141	--	--	--	--
AUG											
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
30...	--	--	--	--	210	--	172	--	--	--	--

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)
DEC											
02...	259	.35	4.06	--	2.2	--	--	--	--	--	.01
31...	222	.30	4.38	--	1.1	--	--	--	--	--	.02
JAN											
27...	286	.39	3.32	--	1.2	--	--	--	--	--	.05
APR											
30...	--	--	--	.83	--	.02	.11	.13	.96	.01	--
MAY											
29...	--	--	--	.51	--	.02	1.5	1.50	2.0	.13	--
JUN											
24...	--	--	--	.55	--	.04	1.7	1.70	2.3	.11	--
JUL											
30...	--	--	--	.62	--	<.01	.34	.34	.96	.03	--
AUG											
27...	--	--	--	.68	--	<.01	.38	.38	1.1	.04	--
SEP											
30...	--	--	--	.73	--	.03	.65	.68	1.4	.06	--

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
DEC											
02...	1215	--	--	--	--	--	--	--	--	--	--
31...	1200	--	--	--	--	--	--	--	--	--	--
JAN											
27...	1230	--	--	--	--	--	--	--	--	--	--
APR											
30...	1150	1	<20	ND	ND	ND	<100	ND	<20	<2	90
MAY											
29...	1145	4	<20	ND	ND	ND	<100	<2	20	ND	11000
JUL											
30...	1200	<1	<20	ND	ND	ND	10	<2	<20	<2	1100

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC										
02...	<10	--	--	--	17	--	--	--	--	--
31...	<10	--	--	--	30	--	--	--	--	--
JAN										
27...	<10	--	--	--	60	--	--	--	--	--
APR										
30...	<10	<200	ND	40	6	<.5	<.5	<1	20	8
MAY										
29...	50	<200	3	240	20	<.5	<.5	1	300	<20
JUL										
30...	40	<200	<2	90	50	<.5	<.5	<1	30	ND

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
29...	1145	5.5	415	8.2	7.0	9.6	.65	--	30	160	9
NOV											
25...	1450	7.6	360	7.4	.0	11.1	.65	--	27	--	--
DEC											
30...	1615	6.9	410	7.3	5.0	10.3	.95	--	21	--	--
JAN											
27...	1445	7.8	430	8.4	.0	11.0	.75	--	40	140	0
FEB											
25...	1330	9.0	362	8.4	5.0	10.0	1.40	--	460	--	--
MAR											
25...	1315	6.0	383	8.4	11.0	9.5	.90	--	K 120	--	--
APR											
29...	1745	7.5	390	8.1	8.0	9.0	.90	--	330	130	0
MAY											
27...	1515	7.0	348	8.1	17.0	7.1	1.20	--	K 350	--	--
JUN											
24...	1815	6.6	318	7.9	16.0	7.4	1.20	K 4100	--	--	--

K BASED ON NON-IDEAL COLONY COUNT.

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 29...	50	9.1	187	--	153	.66	.02	.45	.47	1.1	.03
NOV 25...	--	--	159	--	130	.99	<.01	.14	.14	1.1	<.01
DEC 30...	--	--	186	--	153	1.00	.03	.92	.95	2.0	.15
JAN 27...	43	8.6	187	0	153	1.20	.01	.29	.30	1.5	.07
FEB 25...	--	--	161	0	132	.96	--	--	.75	1.7	.08
MAR 25...	--	--	175	--	144	.75	.04	.11	.15	.90	.01
APR 29...	39	8.3	173	--	142	.84	.01	.20	.21	1.1	<.01
MAY 27...	--	--	166	--	136	.78	.01	.32	--	--	.04
JUN 24...	--	--	162	--	133	.73	.02	.21	.23	.96	.05

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)
OCT 29...	1145	2	<20	ND	ND	ND	--	<100	<2	ND	<2
JAN 27...	1445	<1	<20	ND	ND	ND	0	<100	<2	<20	ND
APR 29...	1745	<1	<20	ND	ND	ND	0	<100	ND	<20	<2

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 29...	170	20	ND	ND	80	30	--	<.5	<1	80	2
JAN 27...	450	<10	<200	ND	70	20	<.5	<.5	<1	<20	ND
APR 29...	540	<10	<200	2	70	30	<.5	<.5	<1	<20	ND

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT 07...	0915	11	358	7.5	5.0	6.7	9.8	.40
NOV 03...	1600	14	228	7.5	7.0	9.4	9.2	1.00
DEC 01...	1000	8.8	--	--	.5	2.2	11.0	.30
JAN 07...	0915	5.5	415	8.0	.0	1.4	11.6	.40
FEB 04...	0920	11	330	7.6	.0	3.3	11.4	.10
MAR 12...	1030	27	360	8.0	.5	15	11.4	.80
APR 07...	1130	7.3	350	8.4	11.0	13	10.6	.80
JUN 16...	0720	8.0	400	7.8	13.0	11	9.7	1.00
JUL 07...	1440	7.2	360	7.9	18.5	22	7.0	.20
AUG 24...	1245	7.6	335	8.2	17.5	10	7.7	1.40
SEP 07...	1300	5.0	395	8.2	16.5	2.8	8.4	.50

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 07...	1100	20	17	16	.94	<.01	.01
NOV 03...	940	13	8.2	23	.86	<.01	.03
DEC 01...	340	21	17	10	1.70	<.01	.01
JAN 07...	320	26	19	4	1.50	.01	.03
FEB 04...	--	21	18	0	1.10	<.01	.02
MAR 12...	120	22	19	55	.90	.01	.06
APR 07...	K 8	23	14	17	.92	.03	.06
JUN 16...	1100	21	15	33	.84	.01	.08
JUL 07...	820	20	15	44	.72	.01	.07
AUG 24...	K18000	17	14	27	.71	.07	.08
SEP 07...	580	21	16	2	.78	<.01	.03

DATE	TIME	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 07...	0915	<20	ND	0	<20	570	<200	70	<.5	ND
JAN 07...	0915	<20	ND	0	<20	140	<200	70	<.5	<20
APR 07...	1130	<20	ND	0	<20	870	<200	80	<.5	<20
JUL 07...	1440	<20	ND	0	<20	1800	<200	110	<.5	20

K BASED ON NON-IDEAL COLONY COUNT.

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT								
18...	1600	6.1	360	8.4	12.0	2.5	9.4	1.10
NOV								
15...	1315	8.8	330	8.0	6.5	2.0	10.4	.90
DEC								
15...	1245	5.5	420	8.1	6.0	1.0	10.4	.40
JAN								
26...	1430	13	320	7.7	.0	40	11.5	2.50
FEB								
23...	1000	6.3	458	7.9	.0	2.6	12.2	.80
MAR								
28...	1315	8.5	312	7.9	11.0	2.0	9.3	.40
APR								
26...	1100	8.9	269	7.7	11.5	17	9.3	1.40
JUN								
02...	1230	8.5	326	7.9	9.5	5.2	9.0	.20
28...	1115	11	275	7.6	15.0	6.0	8.6	2.00
JUL								
26...	1015	8.3	286	8.3	16.0	5.7	7.6	.90
AUG								
24...	1300	5.5	440	8.3	17.5	12	--	.30
SEP								
28...	1157	9.1	260	8.2	12.5	10	9.9	.90

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT							
18...	800	19	9.2	11	.49	<.01	.03
NOV							
15...	100	16	12	6	.23	.04	<.01
DEC							
15...	20	21	17	14	.80	<.01	.01
JAN							
26...	400	18	10	107	.76	.02	.11
FEB							
23...	44	24	23	6	.88	.02	.03
MAR							
28...	K8	19	12	6	.60	.02	.02
APR							
26...	590	15	12	9	.54	.04	.05
JUN							
02...	270	18	12	8	.78	.01	.03
28...	300	13	9.2	1	.44	<.01	.06
JUL							
26...	300	17	10	13	.43	<.01	.01
AUG							
24...	750	18	21	27	.57	.01	.04
SEP							
28...	200	15	9.7	26	.42	.03	.04

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT										
18...	1600	<20	<20	0	<20	160	<200	60	<.1	20
JAN										
26...	1430	ND	<20	0	39	3600	23	270	<.1	50
APR										
26...	1100	<2	ND	0	5	1500	10	140	<.1	20
JUL										
26...	1015	<2	<20	0	7	1400	17	120	<.1	20

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
NOV								
01...	1030	4.6	490	7.6	8.5	.40	9.4	.60
29...	1300	4.3	495	7.3	4.5	1.8	10.5	1.00
DEC								
28...	1030	7.9	416	7.3	.5	3.3	10.1	.20
JAN								
25...	1315	5.5	450	8.2	2.0	15	10.2	.20
FEB								
27...	1305	5.1	480	8.5	5.0	4.3	11.9	2.00
MAR								
27...	1430	8.8	390	8.0	9.5	93	9.1	4.40
APR								
30...	1200	10	355	7.7	10.0	--	8.7	.90
MAY								
29...	1245	34	230	8.3	13.0	--	8.6	11.0
JUL								
05...	1115	15	248	7.2	22.0	--	--	.80
AUG								
03...	1430	6.4	451	7.9	18.0	--	7.6	1.00
22...	1110	10	305	7.7	12.0	--	8.3	.70
SEP								
14...	1445	19	201	7.6	9.5	--	9.3	5.60

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV							
01...	100	23	19	7	.86	.01	<.01
29...	68	24	24	13	.78	.01	.17
DEC							
28...	24	23	18	18	1.00	.01	<.01
JAN							
25...	K10	24	21	3	1.10	.02	.02
FEB							
27...	220	25	33	6	1.20	.24	.15
MAR							
27...	600	21	21	310	1.20	.03	.12
APR							
30...	56	--	--	33	1.10	.02	.03
MAY							
29...	46000	--	--	572	.48	.05	.31
JUL							
05...	79	--	--	36	.50	.01	.03
AUG							
03...	240	--	--	33	1.10	.01	.04
22...	740	--	--	30	.82	.01	.05
SEP							
14...	500	--	--	50	.47	.02	<.01

K BASED ON NON-IDEAL COLONY COUNT.

07103700 FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
NOV 01...	1030	--	--	--	ND	ND	0	4	220
JAN 25...	1315	--	--	--	ND	ND	0	5	200
APR 30...	1200	--	--	--	<2	ND	0	2	980
AUG 03...	1430	<100	1	<10	ND	ND	0	4	800

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
NOV 01...	ND	80	--	<.1	--	--	--	<20
JAN 25...	4	80	--	<.1	--	--	--	20
APR 30...	20	140	--	.3	--	--	--	50
AUG 03...	9	110	80	<.1	ND	<1	ND	20

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
DEC 12...	1140	5.7	465	8.0	.0	11.2	1.60	K16	3	1.20	.04	.05
APR 15...	1325	10	358	8.2	9.0	9.6	2.00	K24	0	.68	.00	.04
JUN 12...	0900	94	146	7.4	8.0	9.2	6.40	420	21	.53	.00	.12
JUL 09...	1450	37	200	7.9	16.0	--	--	K20	23	.69	.00	.07
AUG 06...	1515	14	275	7.5	17.0	6.2	--	K60	37	1.20	.00	.03
28...	0915	16	285	7.3	12.0	8.4	2.80	K7	0	1.10	.00	.03
SEP 24...	1540	23	209	7.1	11.0	9.3	1.50	190	2	.37	.45	.02

DATE	TIME	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
APR 15...	1325	0	2	2	310	5	60	.0	<0	20
JUN 12...	0900	0	0	4	2000	9	120	.0	<0	100

K BASED ON NON-IDEAL COLONY COUNT.

07103747 MONUMENT CREEK AT PALMER LAKE, CO

LOCATION.--Lat 39°06'07", long 104°53'27", in SE¼SE¼ sec.9, T.11 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.9 mi (1.4 km) upstream from Monument Lake, 1.5 mi (7.4 km) downstream from North Monument Creek, and 1.9 mi (3.1 km) southeast of town of Palmer Lake.

DRAINAGE AREA.--25.9 mi^2 (67.1 km^2).

PERIOD OF RECORD.--February 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,950 ft (2,118 m), from topographic map. Record not equivalent to former downstream site.

REMARKS.--Records good except those for winter period, which are fair. Storage and diversions above station for municipal supply of Palmer Lake. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 138 ft^3/s (3.91 m^3/s) May 9, 1980, gage height, 1.65 ft (0.503 m); maximum gage height, 1.98 ft (0.604 m) May 5, 1980; minimum daily discharge, 0.10 ft^3/s (0.003 m^3/s) many days in 1978-79.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 138 ft^3/s (3.91 m^3/s) at 0045 May 9, gage height, 1.65 ft (0.503 m); maximum gage height, 1.98 ft (0.604 m) at 0200 May 5; minimum daily discharge, 0.33 ft^3/s (0.009 m^3/s) Oct. 5-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.46	.90	1.1	.50	1.9	2.8	86	24	3.5	1.1	.87
2	.38	.45	1.0	1.1	.74	2.1	2.4	86	22	3.3	1.4	.81
3	.38	.44	.87	1.1	.98	1.4	2.6	95	20	3.1	1.3	.65
4	.38	.44	.86	1.2	.58	1.4	2.5	110	19	3.1	1.1	.69
5	.33	.44	.82	1.2	.50	1.6	2.9	110	17	2.9	1.1	.68
6	.33	.44	.88	1.1	.74	1.5	3.5	100	15	2.7	.94	.77
7	.33	.47	.90	1.0	.70	1.6	3.8	115	14	2.6	.91	.82
8	.33	.47	.90	1.0	.70	1.6	4.8	120	15	2.6	1.0	.88
9	.33	.48	.90	1.1	.70	1.6	4.5	125	15	2.1	.88	1.4
10	.40	.49	.92	1.2	.80	1.6	5.1	120	15	6.2	.79	.98
11	.44	.47	.91	1.1	.90	1.6	5.6	110	13	3.8	.74	.92
12	.44	.47	1.0	.90	.90	1.6	5.5	90	8.5	3.6	.66	.90
13	.44	.47	1.1	.82	.90	2.1	6.0	60	5.1	3.1	.89	.90
14	.44	.48	1.3	.90	.98	1.7	7.2	34	4.5	2.7	1.8	.90
15	.44	.50	.88	.90	.90	1.7	11	36	4.3	2.3	3.8	.90
16	.44	.51	.92	.98	.80	1.8	13	46	4.1	1.8	2.1	.90
17	.44	.50	1.1	1.1	1.0	2.2	15	47	4.1	1.6	2.0	.90
18	.44	.50	.89	.90	1.4	2.2	19	46	4.1	1.4	2.4	.90
19	.48	.52	1.0	.90	.90	2.1	23	50	4.1	1.4	1.6	.90
20	.54	.52	.94	.90	.90	2.1	30	51	4.3	3.3	1.6	.90
21	.53	.50	.83	1.0	1.3	2.1	35	55	5.1	3.3	1.7	.82
22	.44	.60	.96	1.0	1.0	2.3	41	54	4.2	2.5	1.2	.82
23	.44	.70	1.0	1.1	1.2	2.3	44	52	4.1	2.2	1.0	.82
24	.40	.82	1.0	1.3	1.8	2.8	46	52	4.1	1.9	.98	.82
25	.40	.87	1.0	1.2	2.4	2.3	44	50	4.1	2.0	1.1	.80
26	.38	.88	1.0	.60	1.1	2.3	42	47	4.1	2.0	1.2	.75
27	.41	.87	1.0	.50	1.1	2.4	40	37	4.1	1.7	1.3	.75
28	.41	.80	1.0	.50	1.2	2.3	43	34	3.9	1.5	1.1	.70
29	.42	.80	1.0	.50	1.3	4.0	51	29	3.7	1.3	.89	.70
30	.42	.80	1.0	.50	---	2.9	75	27	3.7	1.3	1.0	.70
31	.44	---	1.1	.50	---	2.4	---	26	---	.96	1.1	---
TOTAL	12.80	17.16	29.88	29.20	28.92	63.5	631.2	2100	273.2	77.76	40.68	25.25
MEAN	.41	.57	.96	.94	1.00	2.05	21.0	67.7	9.11	2.51	1.31	.84
MAX	.54	.88	1.3	1.3	2.4	4.0	75	125	24	6.2	3.8	1.4
MIN	.33	.44	.82	.50	.50	1.4	2.4	26	3.7	.96	.66	.65
AC-FT	25	34	59	58	57	126	1250	4170	542	154	81	50

CAL YR 1979 TOTAL 1189.87 MEAN 3.26 MAX 41 MIN .10 AC-FT 2360
WTR YR 1980 TOTAL 3329.55 MEAN 9.10 MAX 125 MIN .33 AC-FT 6600

07103747 MONUMENT CREEK AT PALMER LAKE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1977 to current year.

REMARKS.--Previously unpublished water-quality records for period April 1977 to September 1978 are published in this report. The 1979 water-year data has been revised herein.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
APR 07...	1330	8.5	103	7.4	10.0	5.7	9.4	.20
MAY 03...	1000	22	81	6.9	8.5	7.1	9.0	.60
JUN 15...	1340	3.5	148	7.8	24.0	1.8	7.2	1.00
JUL 07...	1210	.25	200	7.8	25.0	2.3	7.2	.20
SEP 07...	1415	.60	195	7.6	24.5	1.1	6.9	.40

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
APR 07...	K 28	13	1.9	8	.14	--	.03	.02
MAY 03...	K 70	9.7	1.3	8	.08	--	<.01	.01
JUN 15...	K 15	12	2.0	8	.02	--	.02	.01
JUL 07...	84	--	--	4	--	.0	.03	.02
SEP 07...	K 6	9.7	3.0	4	.01	--	.01	.02

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
APR 07...	<20	ND	0	<20	680	<200	30	<.5	<20
JUL 07...	<20	ND	0	<20	270	<200	50	<.5	2

K BASED ON NON-IDEAL COLONY COUNT.

07103747 MONUMENT CREEK AT PALMER LAKE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGE DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT 18...	1430	.46	200	8.1	16.5	.80	8.5	.60
NOV 15...	1430	.88	190	8.0	7.0	1.0	9.7	.50
DEC 15...	1400	.75	172	8.2	7.0	.70	10.4	.40
JAN 26...	1020	.54	208	7.6	.0	.40	11.6	.50
FEB 21...	1530	.62	174	7.6	.5	1.1	11.1	.60
MAR 28...	1015	1.4	167	7.5	8.5	1.0	10.2	.40
APR 26...	0800	2.6	140	7.5	6.0	1.2	10.6	.80
JUN 02...	1445	6.2	116	7.6	9.5	1.4	8.5	.10
28...	0800	1.3	163	7.4	14.0	.90	9.3	1.70
JUL 26...	0800	.58	195	7.9	16.0	.90	7.3	.70
AUG 24...	0800	.19	215	8.0	14.0	1.6	--	.10
SEP 28...	0800	.11	215	7.9	9.0	.50	7.0	.50

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 18...	K10	8.4	4.1	7	<.10	<.01	.01
NOV 15...	K9	12	5.3	1	.18	.02	<.01
DEC 15...	K4	12	4.4	11	.13	<.01	.01
JAN 26...	K6	16	5.1	8	.33	.23	.01
FEB 21...	K4	13	4.7	1	.24	.03	.03
MAR 28...	K19	15	4.6	4	.08	.01	<.01
APR 26...	K100	9.9	2.6	0	.08	.03	<.01
JUN 02...	92	12	1.7	3	.07	<.01	<.01
28...	23	9.1	2.8	1	.02	<.01	.01
JUL 26...	65	10	3.4	0	.01	<.01	<.01
AUG 24...	K12	9.1	4.3	8	.04	.01	.04
SEP 28...	36	13	4.3	5	<.10	.02	.01

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 18...	<20	<20	0	<20	330	<200	20	<.1	20
JAN 26...	ND	ND	0	13	80	2	30	<.1	20
APR 26...	<2	ND	0	2	160	4	20	<.1	<20
JUL 26...	ND	<20	0	5	350	4	70	<.1	<20

K BASED ON NON-IDEAL COLONY COUNT.

07103747 MONUMENT CREEK AT PALMER LAKE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
NOV								
01...	0700	.39	222	9.0	5.5	.20	8.8	.40
29...	1515	.37	198	6.9	3.0	.00	10.3	.20
DEC								
28...	0715	.33	215	6.5	.5	3.0	12.0	.20
JAN								
25...	0815	.33	230	7.5	.0	.40	10.4	.20
FEB								
28...	1605	.35	194	6.9	1.5	4.0	10.8	.80
MAR								
20...	0845	.41	192	7.0	3.0	1.9	10.6	.50
APR								
26...	1630	21	94	7.3	8.0	--	9.0	2.00
MAY								
25...	0930	6.6	105	6.9	12.5	--	8.4	.70
JUL								
02...	1115	2.4	160	6.6	19.5	--	9.8	.40
AUG								
02...	1400	.58	189	7.1	25.0	--	6.4	.80
22...	0855	.66	204	7.2	13.0	--	7.5	.60
SEP								
14...	1020	.60	210	7.2	14.0	--	7.5	.50

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV								
01...	70	18	5.7	6	.01	--	.01	<.01
29...	21	18	6.4	13	.01	--	.01	.06
DEC								
28...	120	16	5.7	2	.09	--	<.01	<.01
JAN								
25...	K3	16	5.5	7	.01	--	.02	.01
FEB								
28...	K31	16	5.7	7	.03	--	.02	.02
MAR								
20...	K15	14	6.6	0	.08	--	.01	.01
APR								
26...	550	--	--	8	.14	--	.05	.03
MAY								
25...	K150	--	--	7	.10	.10	.02	.01
JUL								
02...	K64	--	--	4	.07	--	.05	.05
AUG								
02...	K8	--	--	8	.03	--	.01	.02
22...	K1700	--	--	5	.01	--	<.01	.02
SEP								
14...	K68	--	--	3	.02	--	<.01	.19

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZI TO RECOVERABLE (UG/L AS ZN)
NOV									
01...	ND	ND	0	2	150	5	30	<.1	<20
JAN									
25...	ND	ND	0	ND	40	2	40	<.1	<20
APR									
26...	<2	ND	0	ND	520	8	20	.4	<20
AUG									
02...	ND	ND	0	<2	480	2	80	<.1	<20

K BASED ON NON-IDEAL COLONY COUNT.

07103747 MONUMENT CREEK AT PALMER LAKE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
DEC 11...	1015	.91	185	7.6	.0	11.1	2.40	100	0	.12	.01	.03
APR 14...	1220	6.9	119	7.7	9.0	8.8	1.00	K12	4	.19	.00	.04
JUN 11...	0846	15	125	7.1	11.0	8.2	--	K1800	6	.13	.00	.06
JUL 09...	1058	2.4	205	7.7	19.5	--	.60	<4	13	.13	.00	.04
AUG 07...	0845	1.0	240	7.0	16.0	7.9	--	K34	17	.09	.03	.14
27...	0845	1.2	230	7.0	14.0	7.9	.30	K4	0	.00	.01	.01
SEP 25...	0900	.80	242	7.5	10.5	8.6	.70	K22	1	.00	.00	.01

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
APR 14...	0	0	1	420	1	30	.0	<0	30
JUN 11...	0	0	3	400	4	40	.1	<0	30

K BASED ON NON-IDEAL COLONY COUNT.

07103800 WEST MONUMENT CREEK AT U.S. AIR FORCE ACADEMY, CO

LOCATION.--Lat 38°58'14", long 104°54'08", in SW¼SW¼ sec.28, T.12 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left bank 500 ft (150 m) upstream from diversion to city of Colorado Springs water-treatment plant, 2.7 mi (4.3 km) south of U.S. Air Force Academy chapel, and 4.4 mi (7.1 km) upstream from mouth.

DRAINAGE AREA.--14.9 mi^2 (38.6 km^2).

PERIOD OF RECORD.--May 1970 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,180 ft (2,188 m), from topographic map.

REMARKS.--Records good except those for winter period and those above 40 ft^3/s (1.13 m^3/s), which are fair. Natural flow of stream affected by transmountain diversions from Colorado River basin, storage reservoirs, and operation of water-supply system. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 2.55 ft^3/s (0.072 m^3/s), 1,850 acre-ft/yr (2.28 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80 ft^3/s (2.27 m^3/s) May 8, 1980, gage height, 2.73 ft (0.832 m) from rating curve extended above 34 ft^3/s (0.96 m^3/s); maximum gage height, 3.31 ft (1.009 m) Dec. 22, 1976 (backwater from ice); no flow on many days in 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 80 ft^3/s (2.27 m^3/s) at 1400 May 8, gage height, 2.73 ft (0.832 m) from rating curve extended above 34 ft^3/s (0.96 m^3/s); minimum daily, 0.10 ft^3/s (0.003 m^3/s) Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	.17	.16	.20	.15	.25	.31	12	9.7	.97	.23	.22
2	.17	.17	.16	.20	.17	.24	.27	14	8.7	1.2	.26	.20
3	.18	.17	.16	.20	.19	.23	.27	15	7.7	1.1	.26	.16
4	.31	.17	.15	.20	.15	.23	.35	19	6.8	.93	.20	.15
5	.26	.20	.14	.20	.17	.20	.45	23	6.0	.84	.20	.16
6	.21	.17	.14	.23	.19	.22	.50	25	5.3	.73	.18	.15
7	.19	.20	.12	.23	.18	.23	.56	24	4.9	.67	.17	.14
8	.17	.20	.13	.23	.17	.22	.50	43	5.2	.63	.21	.14
9	.17	.20	.12	.25	.20	.19	.45	59	13	.59	.28	.41
10	.19	.20	.12	.23	.20	.20	.56	49	4.2	1.1	.21	.36
11	.17	.20	.12	.23	.20	.22	.50	40	3.9	1.4	.22	.23
12	.17	.20	.13	.27	.20	.20	.45	36	3.4	.93	.20	.17
13	.17	.17	.13	.25	.21	.19	.41	34	3.0	.85	.17	.17
14	.16	.17	.14	.27	.21	.22	.52	36	2.7	.84	.54	.19
15	.15	.17	.12	.27	.21	.25	.61	37	2.6	.63	.98	.17
16	.16	.17	.12	.24	.20	.21	.65	40	2.5	.56	.41	.15
17	.17	.16	.15	.23	.21	.27	.68	39	2.5	.50	.31	.13
18	.17	.17	.14	.23	.25	.23	1.1	37	2.3	.50	.23	.11
19	.16	.17	.13	.23	.27	.23	1.4	37	2.3	.46	.20	.10
20	.17	.18	.14	.27	.24	.23	1.2	37	2.2	.45	.17	.11
21	.22	.18	.14	.26	.22	.23	1.5	37	2.0	.45	.16	.11
22	.20	.18	.16	.23	.21	.23	1.7	39	1.8	.42	.16	.13
23	.20	.17	.14	.25	.20	.23	1.9	38	1.6	.40	.14	.13
24	.20	.17	.14	.24	.20	.23	2.4	33	1.5	.38	.13	.14
25	.20	.17	.14	.20	.19	.23	2.2	37	1.3	.44	.19	.15
26	.20	.18	.14	.19	.22	.23	1.9	31	1.2	.46	.25	.16
27	.17	.18	.19	.18	.28	.23	2.0	19	1.1	.35	.70	.16
28	.17	.18	.20	.15	.31	.23	2.6	17	1.1	.30	.31	.15
29	.17	.17	.20	.14	.27	.23	3.3	14	1.0	.27	.22	.15
30	.20	.17	.20	.14	---	.23	6.6	12	.99	.27	.22	.19
31	.20	---	.20	.14	---	.20	---	11	---	.26	.29	---
TOTAL	5.77	5.36	4.57	6.78	6.07	6.96	37.84	944	112.49	19.88	8.40	5.09
MEAN	.19	.18	.15	.22	.21	.22	1.26	30.5	3.75	.64	.27	.17
MAX	.31	.20	.20	.27	.31	.27	6.6	59	13	1.4	.98	.41
MIN	.14	.16	.12	.14	.15	.19	.27	11	.99	.26	.13	.10
AC-FT	11	11	9.1	13	12	14	75	1870	223	39	17	10

CAL YR 1979 TOTAL 282.81 MEAN .77 MAX 4.2 MIN .10 AC-FT 561
WTR YR 1980 TOTAL 1163.21 MEAN 3.18 MAX 59 MIN .10 AC-FT 2310

07103950 KETTLE CREEK NEAR BLACK FOREST, CO

LOCATION.--Lat 39°00'14", long 104°44'21", in NE¼SE¼ sec.14, T.12 S., R.66 W., El Paso County, Hydrologic unit 11020003, on right bank 13 ft (4 m) downstream from bridge on Milan Rd., 1.2 mi (1.9 km) downstream from Burgess Creek, and 2.2 mi (3.5 km) southwest of Black Forest.

DRAINAGE AREA.--9.01 mi² (23.34 km²).

PERIOD OF RECORD.--May 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,980 ft (2,130 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair, and those above 20 ft³/s (0.57 m³/s), which are poor. No known diversion above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 99 ft³/s (2.80 m³/s) July 24, 1977, gage height, 1.80 ft (0.549 m), from rating curve extended above 20 ft³/s (0.57 m³/s); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5 ft³/s (0.19 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Apr. 30	1800	27	0.76	2.10	0.640	June 2	0830	7.8	0.22	1.72	0.524
May 8	1800	33	0.93	2.04	0.622	Aug. 13	1800	44	1.25	2.08	0.634
May 15	2200	*66	1.87	2.11	0.643						

Minimum daily discharge, 0.13 ft³/s (0.004 m³/s) Nov. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	.17	.23	.30	.30	.47	.84	9.6	7.0	.90	.45	.64
2	.21	.17	.25	.35	.40	.34	1.1	11	7.3	.90	.40	.64
3	.21	.18	.34	.35	.60	.25	.51	7.7	7.0	1.2	.40	.64
4	.17	.19	.84	.32	.64	.40	.68	10	6.3	1.5	.38	.55
5	.14	.16	.29	.29	.64	.47	.74	11	5.3	1.5	.35	.64
6	.17	.21	.28	.21	.57	.40	.82	10	4.3	1.5	.34	.96
7	.14	.21	.40	.21	.56	.40	.54	8.9	3.6	1.4	.34	.96
8	.14	.21	.21	.25	.45	.47	.65	21	3.5	1.3	.28	.64
9	.17	.18	.21	.34	.45	.55	.70	18	3.6	1.2	.39	.64
10	.17	.17	.21	.29	.45	1.1	1.2	13	3.4	1.2	.36	.64
11	.17	.16	.21	.29	.45	.74	1.3	13	2.5	1.1	.21	.74
12	.17	.18	.21	.25	.50	.64	1.1	13	3.3	1.0	.16	.84
13	.21	.20	.21	.31	.50	.64	.94	13	3.1	1.0	.71	.74
14	.17	.17	.55	.36	.50	.64	.80	12	3.4	.95	.54	.74
15	.17	.14	.74	.37	.45	.96	1.1	29	3.0	.90	.48	.55
16	.17	.13	.55	.48	.45	1.1	1.1	23	3.1	.84	.54	.47
17	.17	.15	.72	.50	.45	.74	1.3	12	2.3	.80	.36	.40
18	.17	.15	.70	.35	.45	.55	1.1	10	2.3	.80	.33	.34
19	.21	.15	.74	.27	.50	.55	1.2	11	2.4	.80	.32	.29
20	.17	.15	.96	.27	.53	.40	1.1	8.8	2.3	.75	.35	.25
21	.25	.15	.74	.33	.56	.55	1.1	6.7	2.3	.74	.39	.25
22	.21	.17	.34	.34	.63	.64	1.0	6.5	2.3	.70	.51	.25
23	.18	.20	.21	.53	.93	.96	1.3	6.2	2.1	.70	.71	.21
24	.17	.25	.21	.71	1.0	.55	2.1	6.0	1.9	.65	.55	.21
25	.21	.25	.25	.60	.91	.74	2.5	5.3	1.6	.64	.46	.21
26	.21	.23	.23	.50	.82	1.1	4.7	5.8	1.4	.64	.41	.21
27	.21	.20	.20	.40	.60	.84	6.9	6.2	1.3	.60	.84	.21
28	.21	.20	.20	.35	.48	.74	10	6.2	1.2	.60	.74	.21
29	.22	.21	.20	.30	.32	1.1	12	5.1	1.1	.55	.64	.21
30	.18	.22	.23	.30	---	1.1	16	5.2	1.0	.55	.55	.17
31	.21	---	.25	.30	---	.55	---	5.9	---	.49	.55	---
TOTAL	5.77	5.51	11.91	11.02	16.09	20.68	76.42	330.1	95.2	28.40	14.04	14.45
MEAN	.19	.18	.38	.36	.55	.67	2.55	10.6	3.17	.92	.45	.48
MAX	.25	.25	.96	.71	1.0	1.1	16	29	7.3	1.5	.84	.96
MIN	.14	.13	.20	.21	.30	.25	.51	5.1	1.0	.49	.16	.17
AC-FT	11	11	24	22	32	41	152	655	189	56	28	29

CAL YR 1979 TOTAL 309.26 MEAN .85 MAX 9.9 MIN .00 AC-FT 613
WTR YR 1980 TOTAL 629.59 MEAN 1.72 MAX 29 MIN .13 AC-FT 1250

07104000 MONUMENT CREEK AT PIKEVIEW. CO

LOCATION.--Lat 38°55'04", long 104°49'05", in NW¼SE¼ sec.18. T.13 S.. R.66 W.. El Paso County. Hydrologic Unit 11020003. on right bank at downstream side of abandoned bridge at northeast edge of Pikeview. 600 ft (180 m) upstream from unnamed tributary. 1.200 ft (370 m) upstream from bridge on U.S. Interstate Highway I-25. and 0.7 mi (1.1 km) downstream from Dry Creek.

DRAINAGE AREA.--204 mi² (528 km²).

PERIOD OF RECORD.--October 1938 to September 1949. January 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6.203.26 ft (1.890.754 m). National Geodetic Vertical Datum of 1929. September 1938 to October 1949. nonrecording gage at same site at datum 0.10 ft (0.030 m) lower.

REMARKS.--Records good except those for winter period. which are fair. Natural flow of stream affected by storage reservoirs. power developments. diversions for irrigation. municipal use and return flow from irrigation. and sewage-effluent discharge. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years (water years 1939-49. 1977-80). 24.3 ft³/s (0.688 m³/s). 17.610 acre-ft/yr (21.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. 1.290 ft³/s (36.5 m³/s) July 9. 1978. gage height. 4.61 ft (1.405 m). from rating curve extended above 100 ft³/s (2.8 m³/s). on basis of slope-area measurement of peak flow; no flow July 24. 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 30. 1935. reached a stage of about 14 ft (4.3 m) present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge. 541 ft³/s (15.3 m³/s) at 0100 May 16. gage height. 2.29 ft (0.698 m). from rating curve extended above 100 ft³/s (2.8 m³/s). on basis of slope-area measurement of peak flow; minimum daily. 2.3 ft³/s (0.065 m³/s) Jan. 22.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	7.2	8.0	10	8.0	12	19	297	79	18	9.4	7.2
2	7.6	7.2	12	6.2	16	13	18	264	72	33	10	8.3
3	8.6	7.7	15	12	15	15	18	273	69	24	8.8	7.0
4	5.3	5.0	18	9.1	13	14	17	356	69	19	9.0	6.1
5	6.5	4.2	18	9.0	9.2	16	21	399	64	18	7.5	6.6
6	6.0	5.7	19	6.8	7.1	18	19	400	61	17	7.4	8.3
7	6.0	6.1	11	11	5.2	19	16	369	62	15	6.1	6.4
8	6.0	6.8	7.4	15	6.1	18	16	437	65	15	8.3	6.3
9	4.9	6.1	7.0	14	6.1	19	16	372	82	13	10	9.6
10	4.8	6.1	5.3	13	6.5	17	15	336	63	22	9.8	10
11	4.8	6.4	7.3	9.5	9.2	16	16	312	57	33	9.2	8.8
12	4.8	7.0	10	11	7.8	17	16	292	49	20	8.7	7.0
13	4.8	9.0	8.1	12	11	14	16	258	44	15	13	6.8
14	4.8	8.2	9.9	12	13	12	17	242	39	15	45	8.2
15	4.8	9.8	8.8	16	16	13	16	292	34	12	64	8.1
16	4.3	10	7.3	12	24	13	18	321	33	11	34	5.9
17	3.9	10	8.5	10	19	12	17	234	36	11	21	6.7
18	3.2	8.3	7.5	11	17	13	22	226	34	11	17	6.5
19	4.0	7.6	10	11	12	13	34	226	34	11	14	6.5
20	4.2	7.6	13	6.1	11	12	55	252	35	9.0	13	5.7
21	4.8	7.6	9.8	4.0	11	12	70	255	47	16	13	5.3
22	6.0	7.6	9.4	2.3	11	12	66	263	41	11	16	5.5
23	7.0	7.0	8.6	4.4	11	14	70	236	35	11	16	5.0
24	6.3	7.0	14	3.9	11	14	113	199	28	13	17	5.5
25	7.0	7.0	15	2.8	12	14	95	168	25	14	21	7.5
26	6.8	6.4	9.7	2.6	12	13	85	146	22	11	34	6.8
27	5.5	6.0	8.2	2.5	12	16	83	132	20	9.1	43	6.3
28	4.2	6.0	8.5	2.5	12	17	78	112	19	7.1	15	7.5
29	5.2	6.0	12	2.7	12	17	84	95	18	7.7	11	5.9
30	5.9	6.0	10	3.0	---	18	132	90	19	8.3	13	6.9
31	8.9	---	12	4.0	---	20	---	84	---	9.2	8.1	---
TOTAL	174.1	212.6	328.3	251.4	336.2	463	1278	7938	1355	459.4	532.3	208.2
MEAN	5.62	7.09	10.6	8.11	11.6	14.9	42.6	256	45.2	14.8	17.2	6.94
MAX	8.9	10	19	16	24	20	132	437	82	33	64	10
MIN	3.2	4.2	5.3	2.3	5.2	12	15	84	18	7.1	6.1	5.0
AC-FT	345	422	651	499	667	918	2530	15750	2690	911	1060	413

CAL YR 1979 TOTAL 6025.1 MEAN 16.5 MAX 98 MIN 2.2 AC-FT 11950
WTR YR 1980 TOTAL 13536.5 MEAN 37.0 MAX 437 MIN 2.3 AC-FT 26850

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

REMARKS.--Previously unpublished water-quality records for period April 1975 to current year are published in this report.

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
APR 30...	1015	13	220	8.0	7.0	9.9	1.20	<20	--	--	--
MAY 29...	1030	11	235	7.6	4.0	10.0	.70	K25	310	--	--
JUN 24...	1530	18	132	8.1	25.0	6.1	.85	--	--	--	--
JUL 30...	1045	9.4	250	--	24.5	6.6	1.40	220	--	87	18
AUG 27...	1410	2.1	320	8.9	23.0	8.4	1.30	170	--	--	--
SEP 30...	1015	2.8	305	7.9	10.0	8.5	.90	88	--	--	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	BICARBONATE (MG/L AS HCO3)	ALKALINITY FIELD (MG/L AS CACO3)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
APR 30...	--	--	--	--	.78	.07	.33	.40	1.2	.24
MAY 29...	--	--	--	--	.49	.01	.51	.52	1.0	.16
JUN 24...	--	--	--	--	.52	.04	.30	.34	.86	.18
JUL 30...	28	4.2	84	69	.35	<.01	.34	.34	.69	.36
AUG 27...	--	--	--	--	1.10	<.01	.38	.38	1.5	.32
SEP 30...	--	--	101	83	.41	.03	.28	.31	.72	.20

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
APR 30...	1015	2	<20	ND	ND	ND	<100	ND	<20	<2	2200
MAY 29...	1030	1	<20	ND	ND	ND	<100	ND	<20	ND	1900
JUL 30...	1045	2	<20	ND	ND	ND	10	<2	<20	<2	1600

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
APR 30...	40	<200	ND	110	2	--	<.5	1	20	2
MAY 29...	60	<200	2	40	<10	<.5	<.5	1	40	<20
JUL 30...	<10	<200	ND	80	<10	<.5	<.5	1	60	ND

K BASED ON NON-IDEAL COLONY COUNT.

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT 29...	1010	3.2	312	7.8	8.0	7.8	.60	K4	120	47
NOV 25...	1400	2.6	330	6.9	.0	11.0	.70	K13	--	--
DEC 30...	1525	14	300	7.2	.0	10.9	4.70	<2	--	--
JAN 27...	1020	3.8	340	7.7	.0	10.9	.70	<1	120	40
FEB 25...	1630	9.9	300	8.0	5.0	9.6	1.60	K4	--	--
MAR 25...	1530	4.6	305	8.0	15.0	7.7	.60	<1	--	--
APR 29...	1630	18	230	7.9	10.0	8.6	1.70	K6	81	15
MAY 27...	1415	12	218	7.9	24.0	6.3	1.30	K16	--	--
JUN 24...	1730	5.3	252	8.0	23.0	6.9	1.20	K 100	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 29...	40	6.0	95	78	.55	<.01	.30	.30	.85	.23
NOV 25...	--	--	92	75	.81	<.01	.29	.29	1.1	.13
DEC 30...	--	--	87	71	1.40	1.30	1.9	3.20	4.6	.86
JAN 27...	36	6.3	92	75	2.20	.05	.63	.68	2.9	.21
FEB 25...	--	--	79	65	1.30	.05	.71	.76	2.1	.28
MAR 25...	--	--	88	72	.83	.02	.56	.58	1.4	.16
APR 29...	25	4.5	81	66	.69	.02	.59	.61	1.3	.21
MAY 27...	--	--	78	64	.62	<.01	.49	.49	1.1	.23
JUN 24...	--	--	85	70	.20	.01	.26	.27	.47	.19

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)
OCT 29...	1010	2	ND	ND	ND	4	--	<100	ND	ND	ND
JAN 27...	1020	<1	<20	ND	ND	ND	0	<100	<2	<20	ND
APR 29...	1630	2	<20	ND	ND	ND	0	<100	ND	<20	ND

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 29...	160	20	<200	ND	50	20	--	<.5	2	70	2
JAN 27...	150	<10	<200	ND	80	30	<.5	<.5	1	<20	ND
APR 29...	2100	40	<200	3	150	<10	<.5	<.5	<1	20	ND

K BASED ON NON-IDEAL COLONY COUNT.

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT 07...	0800	5.0	303	7.0	4.5	14	9.8	.50
NOV 04...	1330	13	345	7.6	10.5	22	8.2	.60
DEC 01...	0900	4.0	300	7.6	.0	6.8	11.0	2.00
JAN 07...	0800	3.2	320	7.7	.0	4.2	11.0	.10
FEB 04...	0815	2.2	330	7.3	.0	7.7	11.0	.40
MAR 12...	0930	.02	360	7.0	.0	1.2	6.8	.10
APR 07...	1415	21	240	7.6	18.0	95	7.2	2.30
MAY 03...	1100	70	142	7.5	13.0	55	8.8	1.10
JUN 15...	1430	4.8	360	7.6	28.0	60	6.6	1.10
JUL 07...	1330	1.4	370	8.0	28.5	7.7	6.5	.10
AUG 24...	1445	5.3	270	7.9	28.0	36	6.5	.50
SEP 07...	1530	2.0	360	8.0	25.0	9.0	6.9	.40

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 07...	110	56	12	74	.47	<.01	.10
NOV 04...	K 14	40	12	103	2.10	<.01	.34
DEC 01...	K 3600	52	13	21	1.40	.48	.25
JAN 07...	K 10	62	10	10	1.10	<.01	.09
FEB 04...	--	65	16	0	2.10	.01	.15
MAR 12...	40	66	14	0	1.90	.01	.15
APR 07...	K 10	39	9.3	256	1.30	.76	.49
MAY 03...	K 72	19	3.5	175	.43	.01	.11
JUN 15...	290	43	8.2	228	.50	.04	.25
JUL 07...	K 120	71	9.9	27	.39	<.01	.16
AUG 24...	K 160	38	8.0	105	.29	.02	.21
SEP 07...	130	70	10	12	.19	<.01	.12

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 07...	0800	<20	ND	0	<20	1500	<200	60	<.5	ND
JAN 07...	0800	<20	ND	0	<20	190	<200	20	<.5	<20
APR 07...	1415	<20	ND	0	<20	4900	<200	140	<.5	30
JUL 07...	1330	<20	ND	0	<20	430	<200	20	<.5	2

K BASED ON NON-IDEAL COLONY COUNT.

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT 18...	1520	3.8	360	8.7	17.0	7.9	8.6	.90
NOV 15...	1530	7.5	334	8.1	7.0	10	10.4	.60
DEC 15...	1450	5.4	350	7.8	8.0	14	9.9	.30
JAN 26...	1150	9.5	393	7.4	.0	5.5	11.4	1.30
FEB 23...	1100	7.6	394	7.8	.0	34	11.6	1.50
MAR 28...	1115	9.4	315	7.7	14.0	16	9.1	1.70
APR 26...	0900	9.3	288	7.7	12.5	9.7	9.4	1.30
JUN 02...	1400	17	235	7.7	11.5	8.2	8.5	.10
28...	0930	5.9	337	7.9	17.5	8.0	8.4	2.60
JUL 26...	0900	3.3	436	8.2	19.0	8.9	7.0	.70
AUG 24...	1000	1.6	484	8.2	21.5	16	--	.50
SEP 28...	1000	2.0	480	8.0	13.5	20	7.9	.60

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 18...	K4	71	4.6	20	.19	<.01	.07
NOV 15...	K8	55	12	24	.80	.01	.06
DEC 15...	K4	62	11	54	.84	<.01	.07
JAN 26...	10	52	13	26	1.60	2.40	.73
FEB 23...	<2	74	18	126	2.50	.69	.33
MAR 28...	<2	51	12	38	1.60	.74	.44
APR 26...	<2	43	9.9	28	.47	.04	.14
JUN 02...	K48	33	6.4	20	.48	.01	.14
28...	470	59	9.3	37	.18	<.01	.15
JUL 26...	--	86	13	25	.51	<.01	.12
AUG 24...	K60	100	14	63	.31	.01	.12
SEP 28...	K40	97	13	19	.51	.02	.11

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 18...	1520	<20	<20	0	<20	890	<200	20	<.1	20
JAN 26...	1150	ND	ND	0	5	380	2	40	<.1	20
APR 26...	0900	ND	<20	0	2	880	5	50	<.1	<20
JUL 26...	0900	5	ND	0	5	1100	31	60	<.1	20

K BASED ON NON-IDEAL COLONY COUNT.

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
NOV								
01...	0845	3.9	445	7.1	6.0	5.0	9.8	.50
29...	1430	7.3	399	7.1	2.5	45	10.6	.80
DEC								
28...	0830	5.5	420	6.9	.5	5.4	12.4	.40
JAN								
25...	1030	6.0	412	7.6	.0	4.5	11.6	.50
FEB								
28...	1345	15	367	6.8	5.0	160	9.9	3.30
MAR								
21...	1430	23	325	6.9	6.5	510	--	5.00
APR								
25...	1600	58	190	7.5	11.0	--	8.4	3.90
MAY								
29...	1400	48	265	7.4	19.0	--	7.1	6.50
JUL								
06...	1030	13	360	7.8	21.0	--	6.9	6.00
AUG								
03...	1430	8.6	415	8.1	29.5	--	5.6	.80
22...	0910	9.6	422	7.5	14.0	--	7.8	.80
SEP								
14...	1140	10	389	7.9	12.0	--	7.5	1.10

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV							
01...	--	95	15	24	.64	.01	.08
29...	K12	77	16	68	.90	.06	<.01
DEC							
28...	K12	86	18	26	1.50	<.01	.03
JAN							
25...	K6	75	15	30	1.70	.14	.08
FEB							
28...	K4	67	18	490	2.90	.98	.71
MAR							
21...	<10	51	14	1550	1.80	.48	.30
APR							
25...	20	--	--	140	.69	.12	.34
MAY							
29...	7900	--	--	2040	.73	.10	.67
JUL							
06...	K12	--	--	296	.78	.02	.12
AUG							
03...	52	--	--	58	.68	.01	.12
22...	4800	--	--	122	.99	<.01	.12
SEP							
14...	840	--	--	4	.69	.01	.05

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV										
01...	0845	ND	ND	0	3	1400	ND	80	<.1	30
JAN										
25...	1030	ND	ND	0	4	1300	6	80	<.1	20
APR										
25...	1600	<2	ND	0	<2	4200	29	210	.4	40
AUG										
03...	1430	ND	ND	0	2	1300	13	60	<.1	<20

K BASED ON NON-IDEAL COLONY COUNT.

07104000 MONUMENT CREEK AT PIKEVIEW, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
DEC												
11...	1430	9.7	384	7.5	.0	11.3	9.60	<4	142	1.50	.06	.73
APR												
15...	1020	18	295	7.9	11.0	8.6	4.80	--	205	.81	.10	.36
MAY												
08...	1200	385	180	7.3	6.0	10.4	10.0	K3800	1490	.34	.25	.49
JUN												
11...	1330	64	224	7.8	22.0	6.8	--	K200	68	.56	.00	.14
JUL												
09...	1200	15	338	8.1	27.5	--	.40	K360	109	.95	.00	.21
AUG												
07...	1245	7.3	404	7.7	28.0	6.1	--	<20	18	1.20	.00	.11
27...	1250	28	290	7.4	20.5	6.9	4.00	2900	536	.91	.05	.36
SEP												
24...	1410	6.3	460	7.8	22.0	7.0	1.50	K10	53	1.20	.00	.07

DATE	TIME	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
APR										
15...	1020	0	0	5	3400	4	170	.0	<0	40
MAY										
08...	1200	1	0	33	38000	56	1200	.8	0	250
JUN										
11...	1330	0	0	5	2600	7	130	.0	<0	60

K BASED ON NON-IDEAL COLONY COUNT.

07104500 TEMPLETON GAP FLOODWAY AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°53'17", long 104°49'01", in SE¼ sec.30, T.13 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 75 ft (23 m) upstream from head of concrete flume, 400 ft (120 m) upstream from bridge on U.S. Highways 85 and 87, and 0.8 mi (1.3 km) north of Colorado Springs.

DRAINAGE AREA.--8.73 mi² (22.61 km²).

PERIOD OF RECORD.--July 1951 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,200 ft (1,890 m), from topographic map.

REMARKS.--Records fair except those below 10 ft³/s (0.28 m³/s), which are poor. This is an artificial channel constructed to divert flood flows from normally dry channels around Colorado Springs during periods of heavy rainfall.

AVERAGE DISCHARGE.--29 years, 0.42 ft³/s (0.012 m³/s), 304 acre-ft/yr (375,000 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,130 ft³/s (32.0 m³/s) July 2, 1980, gage height, 3.58 ft (1.091 m), from rating curve based on computation of flow at critical depth at gage heights 1.3, 1.4, 1.8, and 3.0 ft (0.40, 0.43, 0.55, and 0.91 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,130 ft³/s (32.0 m³/s) at 1700 July 2, gage height, 3.58 ft (1.091 m), from rating curve extended as mentioned above; no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	27	.00	7.4	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	2.7	.00	101	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.09	.00	28	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	2.0	.00	2.0	.00	.00
5	.00	.00	.00	.00	.00	5.0	.00	14	.00	.06	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	11	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	20	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	40	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	18	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	9.0	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	4.5	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	3.0	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	1.1	.00	.00	6.4	.00
14	.00	.00	.00	.00	.00	.00	.00	.41	.00	.00	33	.00
15	.00	.00	.00	.00	.00	.00	.00	15	.00	.00	26	.00
16	.00	.00	.00	.00	.00	.00	.00	29	.00	.00	11	.00
17	.00	.00	.00	.00	.00	.00	.00	16	.00	.00	.52	.00
18	.00	.00	.00	.00	.00	.00	.00	11	.00	.00	.07	.00
19	.00	.00	.00	.00	.00	.00	.00	7.8	10	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	4.3	3.0	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	3.2	.20	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	2.3	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.10	1.2	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.30	.38	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.05	.20	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	32	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.5	.00
29	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00	.78	.00
30	.00	.00	.00	.00	---	.00	9.0	.00	.00	.00	.07	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.03	---
TOTAL	.00	.00	.00	.00	.00	5.00	9.55	243.33	13.20	138.46	115.37	.00
MEAN	.000	.000	.000	.000	.000	.16	.32	7.85	.44	4.47	3.72	.000
MAX	.00	.00	.00	.00	.00	5.0	9.0	40	10	101	33	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	9.9	19	483	26	275	229	.00

CAL YR 1979 TOTAL 0.00 MEAN .000 MAX .00 MIN .00 AC-FT .00
WTR YR 1980 TOTAL 524.91 MEAN 1.43 MAX 101 MIN .00 AC-FT 1040

07104900 MONUMENT CREEK AT CACHE LA POUDRE STREET AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°50'46", long 104°49'42", in NW¼SW¼ sec.7, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, approximately 100 ft (30 m) downstream from Cache la Poudre Street bridge in Colorado Springs.

PERIOD OF RECORD.--January 1976 to September 1979.

REMARKS.--Previously unpublished data for water years 1976 to 1978 are published in this report and the previously published 1979 water-year data is revised herein.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
JAN											
27...	1140	4.6	750	8.1	.5	11.4	1.60	200	240	100	70
FEB											
24...	1415	22	525	7.5	9.5	8.8	4.90	K220	--	--	--
MAR											
26...	0815	2.5	820	7.9	3.0	10.4	1.10	89	--	--	--
APR											
29...	1215	23	362	8.1	10.5	8.6	2.40	K48	120	32	36
MAY											
27...	1115	13	408	8.1	21.0	7.0	1.40	110	--	--	--
JUN											
24...	1400	1.5	810	8.1	27.0	6.0	1.00	250	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
JAN											
27...	17	168	0	138	3.10	--	.05	.71	.76	3.9	.20
FEB											
24...	--	122	0	100	1.60	--	.02	1.9	1.90	3.5	1.60
MAR											
26...	--	185	0	152	2.00	--	.03	.35	.38	2.4	.15
APR											
29...	7.8	110	--	90	.74	--	.01	1.1	1.10	1.8	.36
MAY											
27...	--	116	--	95	--	.8	--	--	.57	1.4	.26
JUN											
24...	--	16	--	13	.89	--	<.01	.31	.31	1.2	.12

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
JAN												
27...	1	<20	ND	0	<20	670	<200	40	<10	<.5	6	<20
APR												
29...	7	<20	ND	0	20	7400	<200	260	<10	<.5	2	60

K BASED ON NON-IDEAL COLONY COUNT.

07104900 MONUMENT CREEK AT CACHE LA POUDRE STREET AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT 06...	1645	11	480	7.9	9.5	85	8.6	.75
NOV 04...	1130	15	445	7.9	10.0	55	8.8	1.00
30...	1415	11	495	8.0	.0	21	10.7	--
JAN 06...	1330	8.2	515	8.0	.0	9.8	11.2	1.00
FEB 03...	1330	19	558	8.0	1.0	60	10.7	1.50
MAR 10...	1230	3.7	670	8.0	1.0	32	10.6	6.80
APR 07...	1230	26	350	7.7	18.0	140	7.3	4.20
MAY 03...	1145	67	167	7.7	17.0	100	7.7	1.10
JUN 15...	1230	15	520	7.9	28.0	75	6.5	1.20
JUL 07...	1015	2.7	750	8.0	24.0	5.4	6.9	.20
AUG 24...	1545	14	420	8.1	27.0	110	6.4	1.80
SEP 07...	1615	1.5	780	8.8	26.0	1.9	9.0	1.50

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 06...	480	110	14	227	.86	.02	.31
NOV 04...	K24	95	14	219	2.80	<.01	.36
30...	K60	130	16	96	2.00	.03	.16
JAN 06...	84	140	15	25	1.60	<.01	.14
FEB 03...	4	130	16	278	2.60	.12	.26
MAR 10...	3800	200	31	105	2.80	.03	.24
APR 07...	<100	83	15	428	1.60	.55	.49
MAY 03...	420	28	4.0	328	.36	<.01	.11
JUN 15...	440	85	12	240	.70	.04	.24
JUL 07...	390	190	17	7	1.10	<.01	.10
AUG 24...	520	85	13	330	.58	.05	.27
SEP 07...	110	300	22	8	.59	.01	.01

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 06...	<20	ND	0	<20	7100	<200	170	<.5	50
JAN 06...	<20	ND	0	<20	630	<200	30	<.5	<20
APR 07...	<20	<20	0	<20	11000	<200	240	<.5	50
JUL 07...	<20	ND	0	<20	410	<200	20	<.5	2

K BASED ON NON-IDEAL COLONY COUNT.

07104900 MONUMENT CREEK AT CACHE LA POUDRE STREET AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT								
18...	1330	5.2	700	8.5	18.0	16	8.8	1.90
NOV								
15...	1630	9.7	595	8.1	7.0	100	10.2	2.00
DEC								
15...	1545	7.4	560	8.1	7.5	30	9.9	1.90
JAN								
26...	1330	9.0	600	7.6	.0	19	11.2	2.40
FEB								
21...	1400	22	630	7.6	.0	450	10.8	7.30
MAR								
28...	1215	10	495	7.9	15.0	100	8.1	4.00
APR								
26...	1000	9.8	517	8.0	15.0	400	8.4	11.0
JUN								
02...	1300	19	346	8.0	11.5	65	8.6	.20
28...	1015	3.6	675	8.5	23.0	2.6	9.6	1.50
JUL								
26...	0945	1.5	897	8.6	22.0	1.0	9.0	1.00
AUG								
24...	1200	1.8	1030	8.6	26.5	1.5	--	.90
SEP								
28...	1100	3.5	840	8.5	17.0	1.0	8.5	2.30

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT							
18...	K74	170	14	51	.50	<.01	.09
NOV							
15...	K46	140	16	234	1.20	.02	.22
DEC							
15...	K28	150	14	93	1.20	<.01	.19
JAN							
26...	K16	100	15	61	1.80	1.10	.46
FEB							
21...	K100	150	34	1480	2.40	.89	1.50
MAR							
28...	K8	100	10	291	1.70	.27	.47
APR							
26...	K20	120	15	1740	1.00	.11	1.10
JUN							
02...	120	61	8.0	164	.59	.01	.22
28...	140	190	14	13	.28	<.01	.05
JUL							
26...	88	250	19	8	.57	<.01	.02
AUG							
24...	140	300	28	9	.43	.03	.04
SEP							
28...	140	250	22	13	.92	.05	.04

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT									
18...	<20	<20	0	<20	1100	<200	40	<.1	20
JAN									
26...	ND	ND	0	9	1300	4	50	.6	20
APR									
26...	ND	20	2	33	37000	35	550	<.1	150
JUL									
26...	ND	ND	0	6	160	5	50	<.1	<20

K BASED ON NON-IDEAL COLONY COUNT.

07104900 MONUMENT CREEK AT CACHE LA POUDRE STREET AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
NOV								
01...	1000	5.1	779	7.6	8.0	2.3	9.7	1.20
29...	1340	10	660	7.4	2.0	64	9.6	2.90
DEC								
28...	0930	7.0	690	6.9	.5	15	10.4	2.10
JAN								
25...	1215	6.2	660	8.0	.0	11	10.0	1.20
FEB								
28...	1225	9.1	600	7.1	10.0	130	9.3	4.30
MAR								
20...	1400	32	440	7.4	1.0	560	11.2	6.50
APR								
30...	1420	44	300	7.8	15.0	--	7.8	2.60
MAY								
29...	1600	50	350	7.6	20.0	--	8.5	10.5
JUL								
06...	1200	17	495	8.2	25.5	--	6.6	2.00
AUG								
02...	1530	8.5	650	--	27.5	--	6.0	1.00
22...	1000	13	645	7.8	17.0	--	7.1	5.00
SEP								
14...	1300	16	500	7.8	12.0	--	7.7	4.80

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV							
01...	520	210	20	20	1.40	.01	.08
29...	1100	160	21	434	1.30	.08	.70
DEC							
28...	200	170	20	54	2.00	.01	.08
JAN							
25...	>4000	170	19	58	2.00	.18	.12
FEB							
28...	2700	150	21	329	2.40	.66	.26
MAR							
20...	500	67	36	2500	1.50	.15	.63
APR							
30...	680	--	--	319	.99	.11	.43
MAY							
29...	47000	--	--	3920	.89	.08	1.20
JUL							
06...	570	--	--	444	1.00	.02	.22
AUG							
02...	500	--	--	176	1.40	.01	.16
22...	K7600	--	--	724	1.50	.03	.37
SEP							
14...	K5100	--	--	398	1.10	.03	.12

K BASED ON NON-IDEAL COLONY COUNT.

07104900 MONUMENT CREEK AT CACHE LA POUDRE STREET AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHROMIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
NOV 01...	--	--	--	ND	ND	0	2	730	ND	50	--	<.1
JAN 25...	--	--	--	ND	<20	0	7	1800	7	60	--	<.1
APR 30...	--	--	--	ND	<20	0	7	6700	23	250	--	.4
AUG 02...	<100	2	<10	ND	ND	0	6	4100	10	90	30	<.1

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)
NOV 01...	--	--	--	20	--	--	--	--	--	--	--	--
JAN 25...	--	--	--	20	--	--	--	--	--	--	--	--
APR 30...	--	--	--	80	--	--	--	--	--	--	--	--
AUG 02...	4	4	ND	30	6.3	5.4	9.2	8.0	7.0	5.0	6.5	4.6

DATE	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)
AUG 02...	.0	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00

DATE	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)
AUG 02...	.00	.00	.00	.00	.00	.00	.00	.00	0	.00

07104905 MONUMENT CREEK AT BIJOU STREET AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°50'14", long 104°49'44", in NW¼NW¼ sec.18, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003 at bridge on Bijou Street in Colorado Springs.

PERIOD OF RECORD.--December 1979 to September 1980.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
DEC											
12...	0950	7.5	676	7.9	.0	11.3	1.20	<4	80	2.10	.05
APR											
15...	1215	27	385	8.2	15.0	7.9	4.80	<4	446	.99	.07
MAY											
08...	1400	800	272	7.8	8.0	9.6	11.0	4200	3460	.45	.23
JUN											
11...	1445	68	318	8.0	23.5	6.4	--	K170	374	.86	.00
JUL											
09...	1310	15	558	8.3	28.0	--	.80	K600	306	1.40	.00
AUG											
07...	1415	8.2	600	8.3	30.5	6.2	--	K50	60	1.90	.00
27...	1430	33	350	7.6	19.5	7.0	7.20	<20	712	1.30	.04
SEP											
25...	1345	9.4	700	7.8	13.0	8.9	4.20	480	358	2.00	.00

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
DEC										
12...	.12	--	--	--	--	--	--	--	--	--
APR										
15...	.31	0	2	9	8700	12	260	.0	0	50
MAY										
08...	.51	2	0	120	86000	110	2200	.4	0	500
JUN										
11...	.32	1	--	12	7200	17	210	.1	0	50
JUL										
09...	.26	--	--	--	--	--	--	--	--	--
AUG										
07...	.11	--	--	--	--	--	--	--	--	--
27...	.65	--	--	--	--	--	--	--	--	--
SEP										
25...	.26	--	--	--	--	--	--	--	--	--

K BASED ON NON-IDEAL COLONY COUNT.

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'59", long 104°49'20", in NE¼SW¼ sec.19, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank 31 ft (9.4 m) upstream from bridge on Nevada Ave. in Colorado Springs, 100 ft (30 m) downstream from mouth of Cheyenne Creek, and 1.3 mi (2.1 km) downstream from Monument Creek.

DRAINAGE AREA.--392 mi² (1,015 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to September 1924, January 1976 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 5,900 ft (1,800 m), from topographic map. Prior to Oct. 1, 1972, nonrecording gage at same site at different datum.

REMARKS.--Records good except those for winter period which are fair and those above 2,500 ft³/s (70.8 m³/s), which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation and municipal use, and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,000 ft³/s (170 m³/s) July 29, 1978, gage height, 7.15 ft (2.179 m), from rating curve extended above 2,400 ft³/s (68.0 m³/s); minimum daily, 2.0 ft³/s (0.06 m³/s) Aug. 19, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,230 ft³/s (91.5 m³/s) at 2200 May 15, gage height, 5.38 ft (1.640 m), from rating curve extended above 2,400 ft³/s (68.0 m³/s); minimum daily, 6.6 ft³/s (0.19 m³/s) Dec. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	29	20	23	10	25	50	605	326	88	26	38
2	10	22	23	21	15	32	40	520	310	283	35	27
3	14	21	25	14	20	23	30	522	294	126	23	23
4	17	21	25	14	22	23	25	550	273	77	21	19
5	17	20	23	19	14	22	30	529	261	62	21	19
6	17	22	20	23	18	23	30	686	245	61	19	19
7	16	25	19	13	24	23	29	731	237	59	19	21
8	16	28	18	9.0	24	25	28	1810	247	67	34	23
9	18	27	17	17	30	21	28	800	268	52	39	88
10	18	18	17	29	34	23	28	700	261	74	37	74
11	16	18	16	11	13	24	34	750	254	106	53	55
12	17	23	17	27	25	29	30	800	233	87	40	42
13	17	21	16	64	30	18	27	750	217	77	53	31
14	18	22	12	44	20	16	30	706	191	59	42	31
15	15	24	20	44	22	16	37	1340	184	51	87	31
16	17	25	14	28	30	16	38	1340	186	47	70	23
17	17	25	11	24	34	15	37	1130	148	45	40	23
18	15	26	16	23	49	14	42	1030	109	45	29	21
19	17	23	13	22	56	23	49	928	185	42	21	23
20	15	27	19	21	45	19	49	860	115	84	13	25
21	45	14	18	22	34	15	56	813	145	84	15	27
22	30	14	16	18	38	16	81	824	117	58	21	27
23	32	18	16	10	27	52	208	828	97	42	19	27
24	34	20	7.4	20	22	23	432	791	74	41	19	29
25	33	23	21	10	24	17	182	721	66	50	27	29
26	31	23	14	8.0	27	16	141	624	59	36	38	23
27	19	18	16	7.0	25	49	127	517	56	31	176	21
28	23	14	17	7.0	27	31	136	450	54	31	42	17
29	26	14	11	7.0	27	32	232	401	55	29	25	15
30	27	17	6.6	8.0	---	48	605	375	63	27	29	14
31	32	---	11	9.0	---	55	---	352	---	27	40	---
TOTAL	649	642	515.0	616.0	786	784	2891	23783	5330	2048	1173	885
MEAN	20.9	21.4	16.6	19.9	27.1	25.3	96.4	767	178	66.1	37.8	29.5
MAX	45	29	25	64	56	55	605	1810	326	283	176	88
MIN	10	14	6.6	7.0	10	14	25	352	54	27	13	14
AC-FT	1290	1270	1020	1220	1560	1560	5730	47170	10570	4060	2330	1760

CAL YR 1979 TOTAL 13820.3 MEAN 37.9 MAX 500 MIN 2.6 AC-FT 27410
WTR YR 1980 TOTAL 40102.0 MEAN 110 MAX 1810 MIN 6.6 AC-FT 79540

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1975 to current year.

REMARKS.--Previously unpublished water-quality records for period April 1975 to September 1978 are published in this report.

REVISIONS.--Revised figures of water-quality data for the water year 1979, superseding those published in the report for 1979 in the miscellaneous section, are given herein.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
APR 29...	1430	19	620	7.6	9.5	8.7	6.00	K 20	--	--	--
MAY 28...	1315	17	520	7.4	10.0	8.5	3.00	K620	470	--	--
JUN 24...	1230	51	345	8.0	22.0	6.8	3.00	--	--	--	--
JUL 29...	1230	15	730	--	23.0	6.6	3.40	440	--	270	130
AUG 27...	1240	11	700	8.5	22.0	9.0	2.40	480	--	--	--
SEP 29...	1315	9.0	700	8.5	22.0	9.7	1.00	220	--	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
APR 29...	--	--	--	--	1.10	1.70	.60	2.30	3.6	.41
MAY 28...	--	--	--	--	1.20	.01	.72	.73	1.9	.20
JUN 24...	--	--	--	--	.79	.22	.88	1.10	1.9	.23
JUL 29...	78	18	171	140	1.00	.67	.63	1.30	2.3	.23
AUG 27...	--	--	--	--	.78	<.01	.91	.91	1.7	.13
SEP 29...	--	--	202	166	1.10	.17	.45	.62	1.7	.15

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
APR 29...	1430	7	<20	ND	40	ND	<100	ND	20	8	4200
MAY 28...	1315	5	<20	ND	60	40	<100	ND	30	<2	3700
JUL 29...	1230	6	<20	ND	25	50	ND	ND	20	5	820

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 29...	<10	<200	<2	200	120	<.5	--	5	140	50
MAY 28...	30	<200	ND	260	120	<.5	<.5	4	240	80
JUL 29...	500	<200	<2	150	240	<.5	<.5	<1	50	20

K BASED ON NON-IDEAL COLONY COUNT.

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT 28...	1340	14	720	--	11.0	8.6	6.00	720	230	76
NOV 25...	1200	20	740	7.2	1.5	10.9	6.00	260	--	--
DEC 30...	1300	20	700	7.7	3.5	10.4	1.40	800	--	--
JAN 26...	1420	10	1200	7.9	2.5	10.6	5.50	K140	310	150
FEB 24...	1330	13	900	7.3	10.5	8.6	--	K43	--	--
MAR 26...	0930	7.5	892	7.8	9.5	E9.8	--	210	--	--
APR 29...	0945	29	484	8.0	9.0	8.8	3.00	210	--	--
MAY 27...	0930	20	514	7.7	15.0	7.8	2.50	88	--	--
JUN 24...	1230	19	553	8.0	23.0	7.0	--	K3600	--	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	BICARBONATE (MG/L AS HCO3)	ALKALINITY FIELD (MG/L AS CACO3)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 28...	64	17	187	153	1.00	14.0	1.6	2.20	3.2	.19
NOV 25...	--	--	185	152	1.50	1.10	1.6	2.70	4.2	.30
DEC 30...	--	--	190	156	--	--	--	2.00	--	.68
JAN 26...	--	--	190	159	--	--	--	--	--	3.80
FEB 24...	--	--	185	152	--	--	--	3.80	--	1.20
MAR 26...	--	--	214	176	--	--	--	3.80	--	.76
APR 29...	--	--	136	112	--	--	--	1.40	--	.40
MAY 27...	--	--	149	122	1.10	.60	.60	--	--	--
JUN 24...	--	--	179	147	1.10	.36	.74	1.10	2.2	.63

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)
OCT 28...	1340	4	ND	ND	42	24	<100	<2	<20	3
JAN 26...	1420	9	--	--	--	--	--	--	--	--
APR 29...	0945	700	--	--	--	--	--	--	--	--

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 28...	1000	40	ND	ND	180	90	<.5	<1	80	20
JAN 26...	--	--	--	--	--	--	--	--	--	--
APR 29...	--	--	--	--	--	--	--	--	--	--

K BASED ON NON-IDEAL COLONY COUNT.

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT								
06...	1545	18	--	7.9	10.5	42	8.3	.20
NOV								
04...	0800	41	460	6.7	3.5	26	10.4	1.80
30...	1300	20	670	8.0	3.0	12	10.5	--
JAN								
06...	1130	11	700	8.1	3.5	10	10.4	.90
FEB								
03...	1245	11	886	--	5.0	13	10.2	.60
MAR								
10...	1200	16	680	7.8	4.0	28	10.0	1.30
APR								
07...	1045	33	555	7.7	15.0	190	8.2	5.20
MAY								
03...	1315	98	300	7.7	18.5	95	7.5	3.90
JUN								
15...	1115	26	645	8.3	24.0	80	6.7	4.60
JUL								
07...	0900	12	650	7.6	20.0	20	6.9	2.80
AUG								
24...	1115	37	550	8.0	22.0	150	7.0	2.80
SEP								
07...	1145	7.2	955	8.2	24.0	1.5	7.9	1.00

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT							
06...	1100	220	21	149	2.90	.96	.55
NOV							
04...	K 250	95	15	89	2.20	<.01	.35
30...	K 32	160	27	70	2.10	1.40	.66
JAN							
06...	K 4	230	27	36	1.90	2.90	.91
FEB							
03...	K 28	240	30	18	2.50	1.00	.42
MAR							
10...	K 20	200	30	158	2.10	2.20	.20
APR							
07...	<50	180	26	574	1.60	2.60	1.20
MAY							
03...	80	80	13	282	.76	<.01	.02
JUN							
15...	1100	160	18	262	.93	1.30	.41
JUL							
07...	540	160	21	42	1.20	.77	.34
AUG							
24...	980	110	17	430	.96	.56	.56
SEP							
07...	120	300	26	4	.84	.01	.06

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT										
06...	1545	<20	20	0	<20	3900	<200	230	<.5	60
JAN										
06...	1130	<20	60	14	<20	780	<200	180	<.5	60
APR										
07...	1045	<20	40	0	20	14000	<200	370	<.5	90
JUL										
07...	0900	<20	<20	0	<20	1600	<200	190	<.5	40

K BASED ON NON-IDEAL COLONY COUNT.

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT 18...	1245	10	850	8.0	16.5	11	8.8	2.60
NOV 15...	1215	5.5	620	7.8	8.5	200	9.8	6.70
DEC 15...	1145	17	712	7.9	8.5	190	9.6	3.30
JAN 27...	0945	35	610	7.7	1.0	12	10.7	24.0
FEB 21...	1250	30	652	7.7	5.0	100	10.8	6.00
MAR 28...	1400	18	708	7.8	17.5	450	7.9	12.0
APR 26...	1200	15	675	8.0	19.0	370	7.6	8.50
JUN 02...	1130	34	610	7.7	11.0	70	8.6	3.00
28...	1230	9.2	665	7.8	25.5	5.0	7.6	14.0
JUL 26...	1100	6.6	938	8.1	24.5	1.0	7.0	7.00
AUG 24...	1400	3.3	1250	8.0	21.5	1.5	--	3.00
SEP 28...	1245	12	790	8.1	21.0	9.0	7.1	4.00

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 18...	K40	220	24	36	1.20	.18	.40
NOV 15...	360	140	20	383	1.30	.35	.58
DEC 15...	K10	180	28	537	1.40	2.10	4.60
JAN 27...	K16	100	15	47	1.60	.91	.33
FEB 21...	<4	130	28	398	2.00	1.20	.60
MAR 28...	--	190	26	998	1.50	1.70	1.70
APR 26...	K20	170	19	1080	.94	.60	1.70
JUN 02...	240	130	16	171	1.40	.13	.70
28...	500	160	18	18	.75	<.01	.16
JUL 26...	K320	280	26	8	.65	<.01	.05
AUG 24...	100	390	34	8	.56	.04	.07
SEP 28...	180	240	19	21	.75	.04	.55

DATE	TIME	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 18...	1245	<20	20	1	<20	870	<200	200	.2	50
JAN 27...	0945	ND	20	1	12	960	6	120	<.1	40
APR 26...	1200	<2	40	0	36	27000	40	520	<.1	130
JUL 26...	1100	4	50	0	8	200	<25	220	<.1	60

K BASED ON NON-IDEAL COLONY COUNT.

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
NOV									
01...	1200	11	920	7.8	12.5	1.8	8.8	6.00	K56
29...	1245	18	895	8.0	6.0	50	9.8	22.0	K220
DEC									
28...	1115	11	844	7.2	4.0	20	11.5	4.00	K56
JAN									
25...	1415	3.7	840	7.9	1.5	22	12.2	1.50	160
FEB									
27...	1105	18	672	8.6	7.0	200	9.8	6.00	520
MAR									
21...	1230	95	517	7.3	4.0	370	--	12.0	<10
APR									
30...	1530	58	295	7.5	13.0	--	8.1	6.00	K720
MAY									
30...	1330	158	475	7.7	12.0	--	8.0	6.00	--
JUL									
03...	1300	33	670	7.8	28.0	--	6.7	.60	K10
AUG									
03...	1045	17	707	7.8	23.0	--	7.4	.60	480
22...	1200	21	579	7.9	23.5	--	6.3	1.40	1600
SEP									
14...	1405	--	--	--	--	--	--	4.80	2400
14...	1410	7.7	435	7.7	14.0	--	7.4	4.80	K2400

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV									
01...	240	22	10	1.40	.01	--	--	--	.12
29...	280	28	106	1.20	.03	--	--	--	.78
DEC									
28...	240	26	50	2.10	.01	--	--	--	.06
JAN									
25...	240	25	61	2.10	.08	--	--	--	.10
FEB									
27...	160	29	310	2.50	.39	--	--	--	.24
MAR									
21...	97	31	2100	1.50	.11	--	--	--	1.30
APR									
30...	--	--	31	.83	.04	--	--	--	.22
MAY									
30...	--	--	1070	.77	.04	--	--	--	.55
JUL									
03...	--	--	101	1.60	.02	--	--	--	.02
AUG									
03...	--	--	101	1.40	.01	.39	.40	1.8	.10
22...	--	--	346	1.30	.03	--	--	--	.19
SEP									
14...	--	--	--	--	--	--	--	--	--
14...	--	--	100	.91	.01	--	--	--	.29

DATE	TIME	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
NOV										
01...	1200	ND	30	0	3	530	ND	210	<.1	40
JAN										
25...	1415	ND	ND	0	5	1900	10	260	<.1	60
APR										
30...	1530	ND	20	0	4	5400	25	200	.4	80
AUG										
03...	1045	ND	ND	0	5	2500	8	290	<.1	--

K BASED ON NON-IDEAL COLONY COUNT.

07105500 FOUNTAIN CREEK AT COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
DEC 12...	1310	14	835	7.8	3.0	10.9	2.00	K500	314	2.10	.07	.20
APR 15...	1440	38	490	8.1	17.0	9.1	7.00	K150	614	1.10	.06	.45
MAY 08...	1530	1630	260	7.7	9.0	8.9	9.80	K3600	2210	.56	.22	.57
JUN 12...	1015	244	272	7.7	14.0	8.9	14.0	K360	67	.84	.00	.13
JUL 09...	1540	42	434	8.1	23.0	--	2.00	K100	100	1.30	.00	.13
AUG 07...	1525	19	700	8.0	28.5	6.7	--	K3000	47	2.10	.05	.06
28...	1015	52	545	7.6	17.0	7.2	2.40	K900	162	2.00	.05	.18
SEP 24...	1140	29	575	7.8	14.0	8.9	2.40	K400	63	1.40	.00	.04

DATE	TIME	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
APR 15...	1440	0	2	18	17000	26	480	.0	0	130
MAY 08...	1530	3	1	83	69000	130	2300	.3	0	460
JUN 12...	1015	0	0	8	3100	11	190	.1	<0	90

K BASED ON NON-IDEAL COLONY COUNT.

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO

LOCATION.--Lat 38°48'11", long 104°47'43", in NE¼SE¼ sec.29, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, approximately 200 ft (61 m) downstream from Janitell Road below Colorado Springs.

PERIOD OF RECORD.--April 1975 to June 1976, May 1979 to September 1979, December 1979 to September 1980.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
APR 29...	1300	42	780	7.4	11.0	8.6	10.0	K20	--	--
MAY 28...	1145	27	760	7.2	13.0	7.7	36.0	--	--	--
JUN 24...	1115	80	349	7.9	16.0	7.4	16.0	--	--	--
JUL 29...	1320	38	760	--	22.0	6.0	44.0	K3100	180	24
AUG 27...	1100	40	800	7.5	21.0	6.9	29.0	>6000	--	--
SEP 29...	1210	35	900	7.7	19.0	6.8	21.0	K20	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
APR 29...	--	--	--	--	.73	16.0	2.0	18.0	19	4.90
MAY 28...	--	--	--	--	.59	14.0	5.0	19.0	20	5.10
JUN 24...	--	--	--	--	1.00	4.60	2.2	6.80	7.8	1.70
JUL 29...	47	14	184	151	.43	11.0	3.0	14.0	14	2.30
AUG 27...	--	--	--	--	.25	<.01	.81	.81	1.1	2.90
SEP 29...	--	--	235	193	.38	.92	.18	1.10	1.5	6.30

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
APR 29...	5	<20	ND	40	40	<100	ND	30	3	2100
MAY 28...	5	<20	ND	100	40	<100	ND	70	6	1900
JUL 29...	3	<20	<2	50	50	<100	<2	20	2	720

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 29...	60	<200	<2	150	100	<.5	<.5	2	100	40
MAY 28...	90	<200	2	220	140	<.5	<.5	3	250	70
JUL 29...	110	<200	2	200	170	<.5	<.5	3	90	20

K BASED ON NON-IDEAL COLONY COUNT.

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 28...	1240	49	820	--	15.0	7.4	8.50	K40	170	0	42
NOV 25...	1050	36	820	7.0	8.5	8.8	16.0	K20	--	--	--
DEC 30...	1215	36	860	7.3	10.0	8.7	13.0	390	--	--	--
JAN 26...	1300	20	900	7.7	7.5	9.2	--	K24	200	9	53
FEB 24...	1230	50	850	6.8	12.0	7.7	38.0	K8	--	--	--
MAR 26...	1045	31	950	7.3	12.5	8.2	16.0	K20	--	--	--
APR 28...	1500	49	655	7.7	13.5	7.9	19.0	K30	160	30	44
MAY 26...	1400	31	780	7.7	20.0	6.5	36.0	K30	--	--	--
JUN 24...	1100	32	815	7.6	20.0	6.6	20.0	K12	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 28...	15	207	0	170	.42	--	15.0	8.0	23.0	23	5.50
NOV 25...	--	219	0	180	.50	--	20.0	4.0	24.0	25	6.50
DEC 30...	--	215	0	176	.77	--	14.0	8.0	22.0	23	6.50
JAN 26...	16	231	--	189	.99	.9	13.0	22	35.0	36	7.20
FEB 24...	--	188	--	154	.49	--	14.0	8.0	22.0	22	7.20
MAR 26...	--	222	--	182	.79	--	12.0	15	27.0	28	6.10
APR 28...	13	163	--	134	.76	--	<.01	23	23.0	24	4.00
MAY 26...	--	--	--	157	--	.6	--	--	17.0	18	4.30
JUN 24...	--	205	--	168	.97	--	14.0	2.0	16.0	17	4.40

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT 28...	3	<20	<2	60	40	40	<100	<2	20	3	670	50
JAN 26...	2	<20	<2	40	ND	0	<100	0	80	8	1300	40
APR 28...	13	<20	ND	60	30	0	<100	2	30	3	10000	40

K BASED ON NON-IDEAL COLONY COUNT.

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	IRON, FERRIC PLUS FERROUS DIS-SOLVED (UG/L)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 28...	--	<200	ND	150	100	--	--	<.5	3	--	90	40
JAN 26...	40	<200	40	150	110	150	<.5	<.5	<1	<1	120	50
APR 28...	40	<200	3	410	50	410	<.5	<.5	4	4	130	70

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
MAY 01...	1545	77	590	7.5	13.5	8.1	2.00	--	122	2.20	3.90	2.50
30...	1230	145	750	7.3	11.0	8.6	22.0	--	301	1.80	1.50	1.40
JUL 09...	1300	79	690	7.4	23.0	6.8	23.0	60	--	--	--	--
AUG 03...	1315	50	812	7.1	23.0	6.1	13.0	410	96	2.80	4.70	5.10
22...	1235	60	775	7.3	20.5	6.4	12.0	440	192	5.20	3.90	4.40
SEP 17...	1415	45	700	7.7	22.0	6.3	22.0	K1500	19	4.80	5.10	4.20

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY 01...	<2	<20	0	16	3200	28	190	.4	100
AUG 03...	<2	20	0	11	2000	16	260	<.1	70

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
DEC 12...	1505	23	910	7.4	8.0	8.8	5.00	K4	53	4.30	6.70	2.90
APR 16...	1525	66	622	7.9	12.5	8.3	5.60	K20	201	5.00	.02	3.00
JUN 12...	1125	236	344	7.5	14.0	8.2	11.0	K32	84	.74	1.60	.54
JUL 10...	0805	58	646	7.7	18.0	--	3.20	<6	82	1.90	2.00	--
AUG 05...	1045	67	890	7.3	20.0	6.4	24.0	--	67	2.20	8.70	4.40
28...	1050	75	724	7.4	20.5	6.7	4.00	K1800	116	1.80	5.70	3.10
SEP 25...	1435	77	702	7.4	16.0	7.6	31.0	K1100	45	2.20	6.20	4.40

K BASED ON NON-IDEAL COLONY COUNT.

07105530 FOUNTAIN CREEK BELOW JANITELL ROAD BELOW COLORADO SPRINGS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
APR								
16...	1	2	13	7000	13	310	.0	100
JUN								
12...	0	0	6	3000	12	180	.0	190

07105535 FOUNTAIN CREEK BELOW CIRCLE DRIVE BELOW COLORADO SPRINGS, CO

LOCATION.--Lat 38°47'46", long 104°47'05", in NW¼NE¼ sec.33, T.14 S., R.66 W., El Paso County, Hydrologic Unit 11020003, approximately 600 ft (183 m) downstream from Circle Drive below Colorado Springs.

PERIOD OF RECORD.--December 1979 to September 1980.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
DEC											
13...	1140	22	903	7.6	6.0	9.7	4.40	<1	27	3.90	7.50
APR											
16...	1350	83	725	7.9	13.0	8.4	8.00	K100	155	1.10	9.80
JUN											
12...	1250	241	365	7.6	15.5	7.4	11.0	K56	64	.96	1.60
JUL											
10...	0915	70	655	7.8	18.5	--	.80	K20	65	2.00	2.10
AUG											
05...	1200	72	900	7.5	22.5	6.5	23.0	K1200	43	2.70	7.90
28...	1145	95	780	7.4	21.5	6.8	5.00	2000	180	2.10	5.00
SEP											
25...	1530	78	798	7.6	16.0	7.7	31.0	K280	35	2.60	6.60

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
DEC										
13...	1.20	--	--	--	--	--	--	--	--	--
APR										
16...	4.70	1	0	12	3600	7	210	.0	0	70
JUN										
12...	.50	0	0	6	2700	16	160	.1	0	50
JUL										
10...	1.90	--	--	--	--	--	--	--	--	--
AUG										
05...	4.50	--	--	--	--	--	--	--	--	--
28...	3.10	--	--	--	--	--	--	--	--	--
SEP										
25...	3.20	--	--	--	--	--	--	--	--	--

K BASED ON NON-IDEAL COLONY COUNT.

07105800 FOUNTAIN CREEK AT SECURITY, CO

LOCATION (REVISED).--Lat 38°43'46", long 104°44'00", in SW¼ sec.24, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank on upstream side of Carson Road bridge, 0.9 mi (1.4 km) southwest of South Security School, 3.5 mi (5.6 km) northeast of Fountain, and 5.5 mi (8.8 km) upstream from Jimmy Camp Creek.

DRAINAGE AREA.--495 mi^2 (1,282 km^2).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,640 ft (1,719 m), from topographic map. Prior to Oct. 26, 1966, at site 1,040 ft (320 m) upstream at datum 6.00 ft (1.829 m) higher. Oct. 26, 1966, to July 18, 1972, at site 980 ft (300 m) upstream at datum 6.00 ft (1.829 m) higher. July 19, 1972, to Feb. 20 1980, at site 980 ft (300 m) downstream at datum 6.00 ft (1.829 m) lower.

REMARKS.--Records good except those periods affected by ice, which are fair, and those above 3,000 ft^3/s (85.0 m^3/s), which are poor. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 5,100 acres (21 km^2) and municipal use, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--16 years, 60.7 ft^3/s (1.719 m^3/s), 43,980 acre-ft/yr (54.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft^3/s (708 m^3/s) July 24, 1965, gage height, 11.30 ft (3.444 m), site and datum then in use, from floodmarks, from rating curve extended above 2,900 ft^3/s (82 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 1.9 ft^3/s (0.054 m^3/s) Mar. 1, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,120 ft^3/s (258 m^3/s) at 1700 July 2, gage height, 4.29 ft (1.308 m) from rating curve extended above 3,000 ft^3/s (85.0 m^3/s); minimum daily, 18 ft^3/s (0.51 m^3/s) Dec. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	45	28	65	59	86	103	1150	408	101	72	84
2	44	44	29	62	54	79	111	632	380	1070	71	78
3	48	41	35	60	46	78	79	531	338	218	52	75
4	50	42	31	56	43	82	80	710	290	105	47	64
5	51	44	28	58	42	81	91	794	260	92	45	67
6	45	44	23	66	40	80	89	925	235	89	46	72
7	41	44	23	88	40	82	92	834	230	86	42	66
8	46	51	21	74	39	76	80	1990	245	93	67	67
9	42	48	20	52	41	71	75	739	280	94	78	196
10	44	47	19	50	41	72	86	679	295	111	87	171
11	39	45	18	44	44	73	90	701	275	167	76	129
12	41	45	20	43	45	70	91	773	265	168	82	99
13	49	35	21	45	47	67	84	709	240	151	65	73
14	43	37	25	45	49	66	88	720	216	135	616	74
15	44	39	27	47	48	65	88	1970	204	125	372	62
16	45	38	28	45	48	67	91	1090	190	101	166	50
17	40	39	35	44	45	72	91	840	180	93	112	46
18	39	39	40	45	49	70	100	751	150	97	103	39
19	36	39	44	44	64	72	106	712	200	100	85	40
20	39	39	54	44	77	69	107	710	150	162	63	42
21	56	36	58	43	78	69	115	710	170	160	51	42
22	52	35	60	43	78	69	104	730	150	112	56	56
23	53	36	70	41	74	100	343	766	140	86	56	51
24	55	32	76	42	72	76	677	720	130	79	67	58
25	58	33	80	41	75	72	291	660	120	119	69	62
26	62	33	70	43	71	73	205	610	116	88	87	62
27	60	31	70	42	68	104	171	570	103	71	490	63
28	58	27	69	40	67	89	147	530	96	64	122	66
29	52	29	68	40	74	83	252	482	87	59	102	67
30	44	28	61	42	---	80	1140	458	97	58	84	61
31	47	---	64	52	---	90	---	450	---	52	98	---
TOTAL	1470	1165	1315	1546	1618	2383	5267	24646	6240	4306	3629	2182
MEAN	47.4	38.8	42.4	49.9	55.8	76.9	176	795	208	139	117	72.7
MAX	62	51	80	88	78	104	1140	1990	408	1070	616	196
MIN	36	27	18	40	39	65	75	450	87	52	42	39
AC-FT	2920	2310	2610	3070	3210	4730	10450	48890	12380	8540	7200	4330

CAL YR 1979 TOTAL 23243 MEAN 63.7 MAX 700 MIN 10 AC-FT 46100
WTR YR 1980 TOTAL 55767 MEAN 152 MAX 1990 MIN 18 AC-FT 110600

07105825 FOUNTAIN CREEK BELOW WIDEFIELD, CO

LOCATION.--Lat 38°43'00", long 104°43'24", in SE¼NE¼ sec.25, T.15 S., R.66 W., El Paso County, Hydrologic Unit 11020003, approximately 200 ft (61 m) downstream from the City of Widefield waste-water treatment facility below Widefield.

PERIOD OF RECORD.--December 1979 to September 1980.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
DEC 13...	1330	23	1160	7.8	5.0	9.6	16.0	300	45	3.40	9.40
APR 16...	1155	85	779	8.1	14.0	7.3	24.0	K7	216	6.70	.08
JUN 12...	1440	249	430	7.7	20.0	6.2	24.0	K80	133	2.00	.64
JUL 10...	1055	74	870	7.8	23.0	--	8.00	K600	51	3.70	1.20
AUG 05...	1325	66	1000	7.6	24.0	5.9	20.0	1400	164	4.40	1.80
28...	1300	99	850	7.4	23.0	5.8	22.0	2700	262	3.50	1.90
SEP 26...	0915	48	1020	7.5	12.0	7.2	28.0	K1400	24	5.10	2.50

DATE	PHOS-PHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
DEC 13...	3.90	--	--	--	--	--	--	--	--	--
APR 16...	3.50	1	1	12	5200	7	300	.0	0	70
JUN 12...	.57	0	0	8	4300	17	220	.0	0	50
JUL 10...	2.10	--	--	--	--	--	--	--	--	--
AUG 05...	2.90	--	--	--	--	--	--	--	--	--
28...	2.20	--	--	--	--	--	--	--	--	--
SEP 26...	6.60	--	--	--	--	--	--	--	--	--

K BASED ON NON-IDEAL COLONY COUNT.

07105900 JIMMY CAMP CREEK AT FOUNTAIN, CO

LOCATION.--Lat 38°41'04", long 104°41'17", in NW¼SE¼ sec.5, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003, on right bank at downstream side of bridge on county road, 1,000 ft (300 m) east of Fountain, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--65.6 mi² (169.9 km²).

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,530 ft (1,686 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair, and those for period of no gage-height record, which are poor. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,930 ft³/s (54.7 m³/s) Aug. 1, 1976, gage height, 4.14 ft (1.262 m), from floodmarks; minimum daily, 0.20 ft³/s (0.006 m³/s) July 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,240 ft³/s (35.1 m³/s) at 0030 Aug. 15, gage height, 3.80 ft (1.158 m); minimum daily, 1.2 ft³/s (0.034 m³/s) Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.2	2.3	1.7	1.7	2.0	2.6	3.6	2.2	3.6	1.5	2.8
2	1.4	2.6	2.4	1.7	1.9	2.0	2.4	2.6	2.0	3.4	1.5	2.8
3	1.4	1.4	2.4	1.7	1.9	2.0	2.2	2.2	2.0	4.8	1.4	2.4
4	1.4	1.9	2.4	1.7	1.7	2.0	1.9	3.4	2.0	3.6	1.3	2.4
5	1.4	1.9	2.0	1.9	1.7	2.0	2.0	9.7	1.9	3.4	1.2	2.2
6	1.5	2.0	2.0	1.8	1.7	2.0	1.5	3.9	1.9	2.8	1.3	2.2
7	1.9	2.0	2.0	1.8	1.6	1.9	1.7	3.7	2.0	2.8	1.5	2.2
8	1.7	2.0	2.0	1.8	1.6	2.0	1.7	20	2.0	2.7	2.0	2.2
9	1.7	2.0	2.0	1.8	1.9	2.0	1.5	14	2.2	2.5	4.8	2.4
10	1.9	2.2	2.0	2.0	1.7	2.0	1.5	6.3	2.2	2.5	3.8	2.6
11	5.2	2.2	2.0	1.7	2.2	2.2	1.4	5.2	2.2	2.3	6.4	2.6
12	6.7	2.2	2.0	1.7	2.0	8.7	1.4	4.8	2.0	2.3	5.1	2.4
13	1.7	2.4	2.0	2.0	1.7	5.9	1.4	4.2	2.4	2.2	3.8	2.0
14	1.7	2.2	2.0	2.0	1.9	2.2	1.5	8.1	2.4	2.4	81	2.0
15	2.0	2.2	2.0	2.2	1.9	2.4	1.4	5.2	2.2	2.3	125	2.0
16	2.4	2.0	2.0	1.5	1.9	2.2	1.5	5.6	2.2	2.2	5.6	1.9
17	2.6	2.2	2.0	1.7	1.9	2.4	1.4	4.5	2.4	2.3	3.9	1.5
18	3.1	2.4	2.0	1.7	1.9	2.0	1.5	3.9	2.4	2.2	3.9	1.7
19	3.6	2.6	2.0	1.5	2.0	2.2	1.9	3.6	2.4	2.2	3.6	1.7
20	3.6	2.6	2.0	1.5	2.0	2.0	1.4	3.4	5.9	2.3	3.1	1.5
21	3.6	2.4	1.9	1.5	2.2	6.7	1.4	3.4	5.9	2.5	3.1	1.5
22	3.4	2.2	1.7	1.4	2.0	16	1.5	3.1	3.1	3.0	2.8	1.9
23	3.4	2.2	1.7	1.4	2.2	15	1.9	2.8	2.8	2.2	2.8	1.7
24	3.4	2.2	1.8	1.5	1.9	3.1	2.8	2.8	2.4	2.0	2.8	1.7
25	3.4	2.4	1.8	1.4	1.9	2.8	2.8	2.8	2.2	1.9	2.8	1.5
26	3.1	2.4	1.8	1.3	1.9	2.4	3.4	2.6	2.4	1.9	3.1	1.5
27	2.8	2.4	1.6	1.3	2.0	2.4	2.6	2.6	2.8	1.8	3.4	1.5
28	2.6	2.4	1.6	1.3	2.0	2.4	1.5	2.6	3.1	1.5	2.8	1.5
29	2.4	2.4	1.6	1.3	2.0	2.4	2.6	2.6	9.8	1.5	2.8	1.5
30	2.2	2.3	1.6	1.5	---	2.2	4.5	2.4	8.1	1.4	2.8	1.5
31	2.2	---	1.7	1.9	---	2.2	---	2.4	---	1.5	2.8	---
TOTAL	80.9	66.5	60.3	51.2	54.9	109.7	58.8	148.0	89.5	76.0	293.7	59.3
MEAN	2.61	2.22	1.95	1.65	1.89	3.54	1.96	4.77	2.98	2.45	9.47	1.98
MAX	6.7	2.6	2.4	2.2	2.2	16	4.5	20	9.8	4.8	125	2.8
MIN	1.4	1.4	1.6	1.3	1.6	1.9	1.4	2.2	1.9	1.4	1.2	1.5
AC-FT	160	132	120	102	109	218	117	294	178	151	583	118

CAL YR 1979 TOTAL 732.08 MEAN 2.01 MAX 47 MIN .68 AC-FT 1450
WTR YR 1980 TOTAL 1148.80 MEAN 3.14 MAX 125 MIN 1.2 AC-FT 2280

NOTE.--NO GAGE-HEIGHT RECORD DEC. 3 TO JAN. 8.

07105905 FOUNTAIN CREEK ABOVE LITTLE FOUNTAIN CREEK BELOW FOUNTAIN, CO--Continued

LOCATION.--Lat 38°37'50", long 104°40'50", in SW¼NW¼ sec.28, T.16 S., R.65 W., El Paso County, Hydrologic Unit 11020003, approximately 1 mi (1.6 km) upstream from mouth of Little Fountain Creek below Fountain.

PERIOD OF RECORD.--April 1975 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
APR 29...	0810	50	1100	8.1	6.0	9.6	58.0	800	--	--	--
MAY 28...	0800	27	1400	7.6	11.5	8.5	35.0	>3500	830	--	--
JUN 24...	0930	21	1050	7.8	14.0	7.7	26.0	--	--	--	--
JUL 29...	0845	33	1200	--	20.0	6.5	36.0	1800	--	430	240
AUG 27...	0800	28	1400	7.9	14.5	8.0	37.0	780	--	--	--
SEP 29...	0945	22	1280	7.8	11.0	8.7	33.0	K500	--	--	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	BICARBONATE (MG/L AS HCO3)	ALKALINITY FIELD (MG/L AS CACO3)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
APR 29...	--	--	--	--	2.90	9.10	2.9	12.0	15	5.30
MAY 28...	--	--	--	--	2.70	4.80	4.0	8.80	12	3.80
JUN 24...	--	--	--	--	3.80	.73	2.1	2.80	6.6	1.80
JUL 29...	110	38	234	192	2.40	2.20	1.5	3.70	6.1	2.40
AUG 27...	--	--	--	--	3.80	2.70	1.9	4.60	8.4	2.90
SEP 29...	--	--	227	186	3.30	5.00	3.2	8.20	12	2.70

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
APR 29...	10	<20	ND	40	ND	100	ND	70	6	9700
MAY 28...	5	<20	ND	30	ND	<100	ND	60	3	4200
JUL 29...	7	<20	ND	14	ND	20	ND	20	2	7800

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
APR 29...	20	<200	2	570	310	<.5	<.5	4	160	20
MAY 28...	30	<200	<2	510	350	<.5	<.5	6	140	<20
JUL 29...	<10	<200	2	470	260	<.5	<.5	3	90	20

K BASED ON NON-IDEAL COLONY COUNT.

07105905 FOUNTAIN CREEK ABOVE LITTLE FOUNTAIN CREEK BELOW FOUNTAIN, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
28...	0930	31	1300	--	9.0	--	36.0	K1100	390	210	110
NOV											
25...	0815	19	1400	7.6	.0	10.8	17.0	K2000	--	--	--
DEC											
30...	0900	35	1350	7.8	.0	11.1	8.00	K10000	--	--	--
30...	0930	35	--	--	--	--	--	--	--	--	--
JAN											
26...	0940	21	2000	7.8	.0	10.6	14.0	290	560	300	150
28...	1240	--	--	--	--	--	--	--	220	95	--
FEB											
24...	0915	61	1450	7.3	1.0	9.9	33.0	7000	--	--	--
MAR											
25...	0915	--	--	--	--	8.6	--	--	--	--	--
26...	1415	10	1650	7.7	15.0	7.8	9.50	K32	--	--	--
APR											
28...	0830	22	1300	8.0	9.0	8.6	42.0	1100	400	210	100
30...	1215	--	--	--	--	--	--	--	--	--	--
MAY											
26...	1000	19	1700	7.7	16.0	7.2	28.0	1700	--	--	--
28...	1100	--	530	8.1	14.5	7.8	--	--	--	--	--
JUN											
23...	0945	31	1330	7.9	19.5	7.5	44.0	930	--	--	--
25...	1030	--	--	--	--	--	--	--	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT											
28...	27	215	176	--	2.50	--	6.40	8.6	15.0	18	3.70
NOV											
25...	--	280	230	--	2.90	--	3.20	1.6	4.80	7.7	1.10
DEC											
30...	--	284	237	--	1.90	--	7.90	8.1	16.0	18	3.40
30...	--	--	--	--	--	--	--	--	--	--	--
JAN											
26...	45	315	256	--	2.80	2.8	4.40	2.7	7.10	9.9	1.90
28...	--	--	--	--	.12	--	--	--	--	--	--
FEB											
24...	--	260	213	--	1.70	1.7	7.60	6.6	14.0	16	3.90
MAR											
25...	--	--	--	--	.60	--	--	--	.07	.67	--
26...	--	305	250	--	3.10	3.1	3.10	2.0	5.10	8.2	1.70
APR											
28...	36	235	193	--	3.30	3.3	4.70	3.9	8.60	12	2.60
30...	--	--	--	--	--	--	--	--	--	1.9	--
MAY											
26...	--	305	250	--	--	3.0	--	--	1.80	4.8	1.10
28...	--	124	102	--	<.10	--	--	--	.40	.40	.05
JUN											
23...	--	8	7.0	E.0	3.30	3.3	4.80	.20	5.00	8.3	2.90
25...	--	--	--	--	<.10	--	--	--	.26	.26	--

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT												
28...	4	ND	ND	20	4	--	<100	2	20	<2	3100	20
JAN												
26...	3	<20	ND	<20	ND	0	<100	<2	<20	<2	890	<10
APR												
28...	6	<20	ND	20	ND	0	<100	2	20	2	3000	30

K BASED ON NON-IDEAL COLONY COUNT.

07105905 FOUNTAIN CREEK ABOVE LITTLE FOUNTAIN CREEK BELOW FOUNTAIN, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	IRON, FERRIC PLUS FERROUS DIS-SOLVED (UG/L)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT												
28...	--	<200	ND	430	350	--	--	<.5	6	--	110	<20
JAN												
26...	10	<200	2	370	320	370	<.5	<.5	5	5	20	<20
APR												
28...	30	<200	ND	410	320	--	<.5	<.5	5	5	60	<20

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT								
06...	1145	54	1150	7.2	13.0	32	7.1	1.00
NOV								
04...	1015	46	980	7.7	10.0	18	8.1	1.00
30...	1015	58	1190	7.9	1.0	34	10.0	3.00
JAN								
06...	0830	41	1360	7.8	.0	11	9.3	19.0
FEB								
03...	0945	56	1100	7.8	2.0	19	10.1	9.00
MAR								
10...	0900	15	1080	7.9	5.0	4.3	9.6	12.0
APR								
07...	0815	9.9	1200	7.6	10.5	8.8	7.8	5.10
MAY								
04...	1010	40	860	7.7	16.0	27	7.8	7.50
JUN								
15...	0915	41	1200	7.7	20.0	95	7.7	18.0
JUL								
06...	1400	30	1150	7.7	30.0	28	5.4	2.80
AUG								
24...	0845	85	1230	7.7	19.0	120	7.1	23.0
SEP								
07...	0900	47	1180	7.9	16.0	45	9.0	24.0

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT							
06...	K 330	300	53	93	5.80	1.20	2.20
NOV							
04...	K 8800	330	53	88	7.70	<.01	2.30
30...	K 800	330	65	156	3.30	.62	3.00
JAN							
06...	5400	390	72	63	3.30	6.70	2.40
FEB							
03...	480	300	64	172	2.80	8.60	3.60
MAR							
10...	K 72	410	69	20	3.10	5.00	2.20
APR							
07...	58	570	61	10	4.40	1.70	1.00
MAY							
04...	K 200	310	38	64	3.40	.37	1.00
JUN							
15...	700	350	53	310	3.20	2.30	2.30
JUL							
06...	1600	390	48	73	2.90	.27	.99
AUG							
24...	1000	360	48	309	6.80	2.20	3.10
SEP							
07...	780	340	61	61	4.30	3.20	9.30

K BASED ON NON-IDEAL COLONY COUNT.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 06...	<20	<20	0	<20	2900	<200	240	<.5	20
JAN 06...	<20	<20	0	<20	980	<200	290	<.5	30
APR 07...	<20	ND	0	<20	410	<200	160	<.5	20
JUL 06...	<20	<20	0	<20	2500	<200	160	<.5	20

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT 18...	0915	41	1200	7.9	8.5	100	9.8	34.0
NOV 15...	0930	38	1220	7.8	7.0	45	9.7	34.0
DEC 15...	0930	60	1050	7.8	4.0	75	10.4	59.0
JAN 27...	1315	35	1250	7.8	3.0	100	11.2	62.0
FEB 21...	0945	35	1340	7.6	3.5	80	10.8	40.0
MAR 28...	1545	9.1	1650	7.8	17.5	180	8.4	23.0
APR 26...	1500	20	1450	7.8	20.0	19	8.0	22.0
JUN 02...	0915	41	1090	7.7	12.5	90	8.6	13.0
26...	1300	--	1470	--	--	--	--	--
28...	1500	17	1420	8.0	28.5	4.4	7.4	17.0
JUL 26...	1300	13	1470	8.0	26.0	30	6.7	13.0
AUG 24...	1620	12	1620	7.6	22.5	11	--	5.00
SEP 28...	1600	30	1330	7.9	22.0	21	6.1	11.0

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 18...	570	310	61	185	3.90	5.90	5.80
NOV 15...	2600	330	58	43	3.10	10.0	4.40
DEC 15...	K17000	300	55	201	3.00	7.20	6.90
JAN 27...	K3400	320	55	338	1.50	7.00	4.50
FEB 21...	840	330	80	230	2.30	8.20	3.80
MAR 28...	<100	530	68	302	3.80	1.70	2.00
APR 26...	K24	420	65	30	3.80	2.60	2.80
JUN 02...	K1100	270	54	153	4.80	1.30	3.20
26...	--	--	--	--	--	--	--
28...	96	420	70	13	3.60	.01	2.80
JUL 26...	K330	460	68	40	3.50	.12	2.20
AUG 24...	84	560	68	36	4.20	.41	2.30
SEP 28...	K160	380	72	26	4.70	.86	3.70

K BASED ON NON-IDEAL COLONY COUNT.

07105905 FOUNTAIN CREEK ABOVE LITTLE FOUNTAIN CREEK BELOW FOUNTAIN, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 18...	<20	50	0	30	7100	<200	560	<.1	80
JAN 27...	3	50	0	60	7300	34	560	.4	130
APR 26...	<2	<20	0	6	1200	6	280	<.1	30
JUL 26...	<2	<20	0	9	1800	17	320	<.1	30

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
NOV 01...	1530	26	1360	7.5	13.0	3.5	7.8	7.00
29...	0945	12	1660	7.1	4.5	4.0	9.8	21.0
DEC 28...	1415	27	1430	7.7	7.0	48	8.6	25.0
JAN 30...	1330	19	1600	7.5	4.0	2.5	--	5.00
FEB 26...	1145	58	1060	7.4	8.5	90	9.0	19.0
MAR 28...	1600	84	1120	7.5	12.5	190	7.4	23.0

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV 01...	1200	390	66	42	4.10	.48	2.70
29...	K320	590	75	20	3.70	.49	.47
DEC 28...	800	420	77	202	2.50	2.90	2.50
JAN 30...	K100	490	87	12	3.60	4.60	2.10
FEB 26...	K80	270	56	222	3.60	5.60	3.30
MAR 28...	K1100	330	50	386	4.30	2.70	3.00

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV 01...	ND	ND	0	7	1100	ND	310	<.1	30
JAN 30...	ND	<20	0	5	210	<2	280	<.1	20

K BASED ON NON-IDEAL COLONY COUNT.

07105905 FOUNTAIN CREEK ABOVE LITTLE FOUNTAIN CREEK BELOW FOUNTAIN, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
DEC 14...	0900	39	1340	7.7	.0	10.4	7.60	K1300	41	4.00	2.80	5.30
APR 16...	0950	84	880	8.1	10.0	8.4	33.0	K100	196	3.10	6.30	4.20
MAY 08...	1630	3000	518	7.7	8.5	9.8	23.0	4600	3960	1.00	.35	2.60
JUN 09...	1200	316	530	7.7	17.5	7.2	30.0	K100	185	2.30	.00	.47
JUL 10...	1210	25	1460	7.8	25.0	--	1.60	K140	47	4.50	.02	.89
AUG 05...	1440	23	1530	7.5	25.0	5.6	6.80	780	52	4.50	.17	2.10
28...	1400	46	1220	7.6	25.0	5.4	7.00	K1400	366	3.30	.27	1.10
SEP 23...	1255	49	1280	7.5	19.5	6.9	11.0	K200	61	5.10	.85	2.20

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
APR 16...	1	2	13	6700	12	430	.0	0	100
MAY 08...	3	1	140	97000	200	2800	.4	1	610
JUN 09...	0	0	11	6900	19	270	.1	0	100

K BASED ON NON-IDEAL COLONY COUNT.

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'54", long 104°51'29", in NE¼SW¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.1 mi (0.2 km), 0.7 mi (1.1 km) upstream from State Highway 115, and 4.8 mi (7.7 km) southwest of Fort Carson.

DRAINAGE AREA.--11.0 mi² (28.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 6,430 ft (1,960 m), from topographic map.

REMARKS.--Records good except those for winter period and period May 23 to June 14, and those above 70 ft³/s (1.98 m³/s), which are fair. No diversion above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 199 ft³/s (5.64 m³/s) May 8, 1980, gage height, 2.83 ft (0.862 m); no flow Aug. 22-28, Sept. 8-24, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10 ft³/s (0.28 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Apr. 24	1130	16	0.45	1.20	0.366	May 8	0600	*199	5.64	2.83	0.863
Apr. 30	2100	57	1.61	1.91	0.582	May 15	2315	126	3.57	1.71	0.521

Minimum daily discharge, 0.40 ft³/s (0.011 m³/s) Nov. 26-30, Jan. 27-31.

REVISIONS.--Revised daily discharge, in cubic feet per second, are given below. These figures supersede those published in WDR CO-79-1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.28	.30	.30	.30	.54	2.8	8.0	17	3.6	1.4	1.7
2	.04	.28	.30	.30	.32	.53	2.6	7.7	21	3.4	1.2	1.5
3	.05	.26	.30	.30	.35	.52	2.7	7.3	25	3.8	1.2	1.3
4	.02	.25	.30	.30	.35	.46	2.4	6.9	26	3.7	.96	1.2
5	.03	.24	.30	.30	.35	.48	2.6	7.0	25	3.5	.87	1.1
6	.03	.24	.30	.30	.35	.50	3.4	7.5	23	3.9	.80	1.1
7	.04	.25	.30	.30	.35	.51	5.7	8.4	22	3.5	.73	1.1
8	.05	.26	.30	.30	.38	.66	8.5	8.6	23	2.9	.66	1.0
9	.06	.27	.30	.30	.40	.59	9.0	8.6	27	2.8	.59	.95
10	.06	.27	.30	.30	.42	.52	8.6	8.2	28	2.3	.80	.83
11	.06	.32	.30	.30	.45	.73	7.9	7.7	27	2.1	.96	.90
12	.07	.31	.30	.30	.50	.83	7.0	7.2	26	2.0	.87	.89
13	.08	.32	.30	.30	.55	.79	6.4	6.7	24	1.8	.96	.84
14	.08	.32	.30	.30	.60	.70	6.9	6.2	22	1.9	2.5	1.6
15	.09	.26	.30	.30	.50	.63	9.7	5.9	20	2.8	2.1	1.2
16	.10	.29	.30	.30	.40	.72	14	6.0	17	2.4	1.9	1.0
17	.11	.29	.30	.30	.45	.73	18	6.0	15	2.2	1.5	.91
18	.11	.31	.30	.30	.50	.67	19	6.1	13	2.1	3.3	.83
19	.13	.30	.30	.30	.55	.66	20	6.3	12	2.0	7.1	.78
20	.14	.32	.30	.30	.60	.67	17	7.2	10	2.1	5.2	.83
21	.15	.32	.30	.30	.60	.73	15	7.3	9.2	1.9	4.6	.84
22	.72	.28	.30	.30	.60	.74	14	7.5	9.0	1.8	4.1	.90
23	.42	.28	.30	.30	.60	.69	14	8.2	8.0	1.6	3.9	.74
24	.33	.28	.30	.30	.60	.78	15	8.5	6.3	1.7	3.6	.70
25	.62	.32	.30	.30	.60	1.0	15	8.3	5.9	2.1	3.3	.85
26	.49	.36	.30	.30	.58	1.4	13	8.4	4.8	1.9	3.3	.73
27	.39	.30	.30	.30	.55	1.8	12	8.4	4.4	1.6	3.3	.61
28	.34	.30	.30	.30	.55	2.6	11	8.5	4.3	1.2	2.7	.60
29	.30	.30	.30	.30	---	3.0	10	9.6	4.1	1.2	2.4	.56
30	.28	.30	.30	.30	---	3.1	9.0	11	3.8	1.2	2.1	.55
31	.28	---	.30	.30	---	3.0	---	14	---	1.4	1.9	---
TOTAL	5.71	8.68	9.30	9.30	13.35	31.28	302.2	243.2	482.8	72.4	70.80	28.64
MEAN	.18	.29	.30	.30	.48	1.01	10.1	7.85	16.1	2.34	2.28	.95
MAX	.72	.36	.30	.30	.60	3.1	20	14	28	3.9	7.1	1.7
MIN	.02	.24	.30	.30	.30	.46	2.4	5.9	3.8	1.2	.59	.55
AC-FT	11	17	18	18	26	62	599	482	958	144	140	57

WTR YR 1979 TOTAL 1277.66 MEAN 3.50 MAX 28 MIN .02 AC-FT 2530

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FORT CARSON, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	.66	.45	.60	.50	.73	.80	52	34	3.8	1.2	.80
2	.52	.73	.50	.60	.60	.80	.73	44	31	4.2	1.2	.80
3	.52	.66	.73	.70	.70	.80	.73	43	28	3.9	1.2	.73
4	.46	.66	.80	.70	.70	.87	.80	45	26	3.5	1.2	.59
5	.52	.66	.73	.73	.65	1.9	1.2	53	24	3.2	.80	.59
6	.46	.59	.73	.80	.60	.87	1.7	51	22	2.9	.80	.59
7	.46	.66	.73	.80	.60	.80	1.8	63	20	2.7	.80	.59
8	.41	.66	.87	.80	.50	.87	2.0	135	19	2.6	.73	.66
9	.46	.66	.90	.80	.50	.96	2.4	105	18	2.6	.87	1.7
10	.41	.66	.80	.80	.60	1.0	2.6	97	19	2.4	1.0	1.7
11	.41	.73	.66	.80	.70	.87	2.8	90	20	2.2	1.0	1.4
12	.41	.73	.66	.80	.80	.73	2.7	80	19	2.2	1.2	1.0
13	.41	.80	.69	.80	.80	.96	2.8	74	18	2.1	.94	1.0
14	.41	.80	.66	1.0	.80	.96	2.9	74	17	2.1	1.4	.87
15	.41	.73	.65	.96	.70	.80	3.2	71	15	2.0	1.8	.80
16	.41	.73	.65	.80	.60	.73	3.5	86	12	1.7	1.4	.80
17	.41	.73	.70	1.2	.60	.73	3.8	72	11	1.6	1.2	.80
18	.46	.73	.80	.78	.70	1.2	4.6	69	9.5	1.4	.96	.59
19	.41	.66	.73	.73	.80	.87	5.6	68	8.9	1.4	.80	.46
20	.41	.80	.66	.73	.80	.80	6.6	66	8.2	1.4	.80	.41
21	.66	.66	.60	.80	.73	.87	7.4	66	7.5	1.6	.73	.41
22	.46	.66	.60	.73	.73	.87	8.2	66	7.0	1.4	.73	.41
23	.41	.66	.65	.66	.87	.80	9.8	75	6.5	1.4	.59	.46
24	.46	.59	.70	.59	.87	1.2	14	80	5.8	1.4	.59	.52
25	.46	.41	.70	.52	1.0	.87	13	72	5.5	1.4	.73	.52
26	.46	.40	.65	.46	1.6	.87	12	63	4.9	1.4	1.7	.59
27	.46	.40	.60	.40	2.0	.80	12	55	4.7	1.4	1.4	.59
28	.52	.40	.60	.40	1.2	.80	13	48	4.4	1.4	1.0	.52
29	.52	.40	.60	.40	.80	.80	19	44	4.2	1.2	.96	.52
30	.66	.40	.60	.40	---	1.2	38	41	3.9	1.0	.96	.52
31	.59	---	.60	.40	---	.66	---	37	---	1.2	1.0	---
TOTAL	14.55	19.02	20.90	21.69	23.05	27.99	199.66	2085	434.0	64.7	31.69	21.94
MEAN	.47	.63	.67	.70	.79	.90	6.66	67.3	14.5	2.09	1.02	.73
MAX	.66	.80	.87	1.2	2.0	1.9	38	135	34	4.2	1.8	1.7
MIN	.41	.40	.45	.40	.50	.66	.73	37	3.9	1.0	.59	.41
AC-FT	29	38	41	43	46	56	396	4140	861	128	63	44

CAL YR 1979 TOTAL 1308.44 MEAN 3.58 MAX 28 MIN .30 AC-FT 2600
WTR YR 1980 TOTAL 2964.19 MEAN 8.10 MAX 135 MIN .40 AC-FT 5880

07105920 LITTLE FOUNTAIN CREEK ABOVE KEATON RESERVOIR NEAR FORT CARSON, CO--Continued

WATER-QUALITY RECORD.

PERIOD OF RECORD.--May 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
APR 17...	1445	3.7	93	7.2	6.0	9.8	K1	K8	32
AUG 28...	1310	1.0	145	7.2	18.0	--	K16	<1	53

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
APR 17...	12	9.0	2.2	4.7	.4	1.2	20	10	1.0
AUG 28...	10	15	3.8	6.3	.4	1.8	43	14	1.7

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS, DISSOLVED (MG/L AS P)
APR 17...	2.9	12	55.0	.07	.55	0	.06	.01
AUG 28...	2.6	13	84.0	.11	.24	1	.00	.00

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
APR 17...	--	--	--	--	--	--	--	--	--	20
AUG 28...	100	0	100	0	40	0	10	13	110	30

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
APR 17...	--	--	1	--	--	--	--	--	--
AUG 28...	0	0	1	.0	2	1	0	2	60

K BASED ON NON-IDEAL COLONY COUNT.

07105924 WOMACK DITCH NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'52", long 104°51'20", in NW¼SE¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on left side of diversion pipe, 300 ft (91 m) downstream from Keaton Reservoir, 0.5 mi (0.8 km) upstream from State Highway 115, and 4.7 m (7.6 km) southwest of Fort Carson.

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 6,400 ft (1,951 m), from topographic map.

REMARKS.--Records good. Gage is on controlled pipe diversion from Keaton Reservoir, which delivers appropriated water rights to Fort Carson and the City of Fountain. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4.8 ft^3/s (0.14 m^3/s) June 3, 4, 9-15, 1979; no flow Mar. 21-24, Sept. 7, 8, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2.4 ft^3/s (0.07 m^3/s) Apr. 22; no flow Mar. 21-24, Sept. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.51	.72	.81	.72	.53	.64	.51	2.2	2.1	2.1	.97	.79
2	.51	.72	.81	.72	.55	.61	.51	2.2	2.1	2.1	.94	.61
3	.51	.72	.81	.72	.55	.63	.51	2.2	2.1	2.1	.94	.51
4	.50	.72	.81	.72	.55	.63	.55	2.2	2.1	2.1	.94	.54
5	.50	.72	.81	.72	.55	.63	.55	2.2	2.1	2.1	.94	.55
6	.51	.72	.81	.84	.55	.64	.55	2.2	2.1	2.1	.94	.31
7	.55	.72	.81	.77	.60	.64	.55	2.2	2.1	2.1	.65	.00
8	.55	.72	.81	.68	.60	.64	.55	2.3	2.1	2.1	.41	.00
9	.55	.72	.81	.68	.59	.60	.55	2.2	2.1	2.1	.41	.02
10	.55	.72	.81	.68	.60	.60	.55	2.2	2.1	2.1	.41	.04
11	.55	.72	.81	.68	.60	.60	.55	2.2	2.1	2.1	.41	.06
12	.55	.72	.81	.68	.60	.60	.55	2.2	2.1	2.1	.41	.06
13	.55	.72	.81	.68	.64	.60	.55	2.2	2.1	2.0	.41	.06
14	.55	.72	.81	.64	.64	.60	.55	2.2	2.1	2.0	.41	.06
15	.55	.72	.81	.64	.64	.60	.55	2.2	2.1	1.2	.41	.06
16	.62	.72	.81	.64	.64	.55	.55	2.2	2.1	.68	.39	.07
17	.70	.73	.81	.64	.64	.55	.55	2.2	2.1	.68	.38	.06
18	.71	.73	.77	.64	.68	.55	.56	2.2	2.1	.85	.38	.06
19	.72	.72	.77	.64	.68	.51	.59	2.2	2.1	.96	.38	.06
20	.72	.77	.77	.67	.68	.19	.59	2.2	2.1	.96	.38	.08
21	.72	.77	.77	.68	.68	.00	1.6	2.2	2.1	.94	.35	.08
22	.72	.77	.77	.68	.68	.00	2.4	2.2	2.1	.95	.35	.08
23	.72	.78	.77	.68	.68	.00	2.2	2.2	2.1	.98	.35	.08
24	.72	.79	.77	.68	.64	.00	2.2	2.2	2.1	.98	.35	.34
25	.72	.80	.73	.68	.64	.15	2.2	2.2	2.1	.94	.35	.68
26	.72	.81	.72	.65	.64	.35	2.2	2.2	2.1	.94	.99	.68
27	.72	.80	.73	.60	.64	.49	2.2	2.2	2.0	.94	1.4	.69
28	.72	.79	.73	.60	.64	.49	2.2	2.2	2.1	.94	1.4	.69
29	.72	.78	.74	.60	.64	.49	2.1	2.2	2.0	.94	1.0	.70
30	.72	.80	.75	.60	---	.50	2.2	2.1	2.1	.94	.81	.71
31	.72	---	.72	.60	---	.51	---	2.1	---	.96	.81	---
TOTAL	19.38	22.36	24.28	20.85	17.99	14.59	32.47	68.1	62.8	44.98	19.67	8.73
MEAN	.63	.75	.78	.67	.62	.47	1.08	2.20	2.09	1.45	.63	.29
MAX	.72	.81	.81	.84	.68	.64	2.4	2.3	2.1	2.1	1.4	.79
MIN	.50	.72	.72	.60	.53	.00	.51	2.1	2.0	.68	.35	.00
AC-FT	38	44	48	41	36	29	64	135	125	89	39	17

CAL YR 1979 TOTAL 628.87 MEAN 1.72 MAX 4.8 MIN .29 AC-FT 1250
WTR YR 1980 TOTAL 356.20 MEAN .97 MAX 2.4 MIN .00 AC-FT 707

07105928 LITTLE FOUNTAIN CREEK NEAR FORT CARSON, CO

LOCATION.--Lat 38°40'49", long 104°51'08", in SW¼SE¼ sec.2, T.16 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 0.3 mi (0.5 km) downstream from Keaton Reservoir, 0.4 mi (0.6 km) upstream from State Highway 115, 1.2 mi (1.9 km) upstream from Deadman Canyon and 4.8 mi (7.7 km) southwest of Fort Carson.

DRAINAGE AREA.--11.8 km^2 (30.6 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,360 ft (1,939 m), from topographic map.

REMARKS.--Records good except those above 70 ft^3/s (1.98 m^3/s) and those for period of no gage-height record, which are fair. Womack Ditch diverts about 5 ft^3/s (0.14 m^3/s) from Keaton Reservoir upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 157 ft^3/s (4.45 m^3/s) May 8, 1980, gage height, 4.46 ft (1.359 m), from rating curve extended above 70 ft^3/s (1.98 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 157 ft^3/s (4.45 m^3/s) at 0430 May 8, gage height, 4.46 ft (1.359 m), from rating curve extended above 70 ft^3/s (1.98 m^3/s); no flow at times.

REVISIONS.--The maximum discharge for water year 1979 has been revised to 35 ft^3/s (0.99 m^3/s) at 2315 June 9, 1979, gage height, 3.20 ft (0.975 m); revised daily discharge, in cubic feet per second, for April and June 1979, are given below. These figures supersede those published in WDR CO-79-1.

Apr. 16	9.2	Apr. 27	8.0	June 9	29
17	13	28	6.8	10	34
18	15	29	5.8	11	31
19	14	June 2	17	12	27
20	11	3	27	13	23
21	9.0	4	27	14	18
22	7.7	5	25	15	15
23	8.2	6	20	16	12
24	10	7	17	17	9.0
25	9.8	8	19	18	7.2
26	8.7				

Month	Total	Mean	Max	Min	Ac-ft
April 1979	176.95	5.90	15	.00	351
June 1979	392.56	13.1	34	.27	779
Wtr Yr 1979	725.40	1.99	34	.00	1,440

07105928 LITTLE FOUNTAIN CREEK NEAR FORT CARSON, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.04	.11	.13	.15	.20	.36	50	31	1.6	.12	.03
2	.00	.04	.11	.16	.20	.15	.39	42	28	2.0	.13	.03
3	.00	.02	.13	.17	.20	.20	.39	40	25	1.8	.11	.03
4	.00	.09	.17	.17	.15	.22	.45	47	23	1.4	.12	.01
5	.00	.14	.19	.18	.10	.25	.60	54	21	1.2	.13	.00
6	.00	.15	.16	.20	.08	.24	.70	56	19	.90	.09	.00
7	.00	.15	.15	.19	.06	.20	.90	66	17	.62	.04	.00
8	.00	.15	.14	.17	.05	.20	1.1	135	17	.45	.04	.00
9	.00	.16	.16	.20	.10	.22	1.3	107	16	.32	.05	.00
10	.00	.16	.17	.21	.20	.25	1.5	86	16	.25	.06	.15
11	.00	.14	.16	.19	.21	.25	1.8	72	18	.20	.19	.91
12	.02	.13	.11	.26	.23	.22	1.7	66	17	.15	.79	.79
13	.02	.13	.09	.30	.20	.20	2.0	58	14	.13	.24	1.0
14	.02	.15	.09	.39	.15	.20	2.2	48	12	.13	.50	.94
15	.03	.16	.07	.35	.10	.23	2.5	57	11	.08	1.1	.79
16	.03	.15	.09	.22	.10	.25	2.9	94	9.8	.04	.79	.79
17	.04	.14	.10	.26	.20	.25	3.3	80	8.8	.04	.54	.74
18	.05	.15	.09	.22	.25	.25	3.7	66	7.8	.27	.42	.70
19	.04	.15	.09	.13	.20	.36	4.1	60	6.7	.35	.33	.70
20	.05	.12	.08	.18	.16	.50	4.1	60	6.0	.33	.24	.66
21	.05	.18	.06	.19	.16	.74	4.4	60	5.5	.48	.30	.66
22	.05	.18	.06	.16	.15	.84	4.3	66	4.9	.46	.33	.94
23	.05	.19	.07	.18	.16	.84	5.7	76	4.2	.33	.24	.84
24	.07	.19	.08	.14	.20	.84	11	74	3.7	.35	.17	.33
25	.06	.19	.08	.11	.23	.79	8.9	64	3.2	.83	.13	.24
26	.05	.11	.09	.07	.25	.54	7.5	55	2.9	.36	.46	.19
27	.06	.11	.11	.07	.25	.50	6.5	48	2.5	.46	.42	.17
28	.05	.11	.16	.05	.25	.39	6.9	44	2.0	.37	.19	.15
29	.05	.11	.16	.05	.23	.30	12	41	2.0	.29	.11	.15
30	.05	.11	.14	.05	---	.24	35	38	1.7	.23	.07	.15
31	.05	---	.13	.10	---	.36	---	35	---	.13	.05	---
TOTAL	.89	4.00	3.60	5.45	4.97	11.22	138.19	1945	356.7	16.55	8.50	12.09
MEAN	.029	.13	.12	.18	.17	.36	4.61	62.7	11.9	.53	.27	.40
MAX	.07	.19	.19	.39	.25	.84	35	135	31	2.0	1.1	1.0
MIN	.00	.02	.06	.05	.05	.15	.36	35	1.7	.04	.04	.00
AC-FT	1.8	7.9	7.1	11	9.9	22	274	3860	708	33	17	24

CAL YR 1979 TOTAL 568.29 MEAN 1.56 MAX 17 MIN .00 AC-FT 1130
WTR YR 1980 TOTAL 2507.16 MEAN 6.85 MAX 135 MIN .00 AC-FT 4970

NOTE.--NO GAGE-HEIGHT RECORD JAN. 29 TO MAR. 18.

07105940 LITTLE FOUNTAIN CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°38'33", long 104°44'49", in NE¼SW¼ sec.23, T.16 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on Fort Carson Military Reservation, on right bank 300 ft (91 m) downstream from Military Road No. 1, 0.4 mi (0.6 km) upstream from mouth of Rock Creek, 3.8 mi (6.1 km) southwest of Fountain.

DRAINAGE AREA.--26.9 mi^2 (69.7 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,560 ft (1,695 m), from topographic map.

REMARKS.--Records good except those above 60 ft^3/s (1.70 m^3/s), which are poor. Diversions above station for irrigation, recreation, and municipal use, amount unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,230 ft^3/s (348 m^3/s) May 8, 1980, gage height, 7.55 ft (2.301 m) from rating curve extended above 260 ft^3/s (7.36 m^3/s); no flow many days.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,230 ft^3/s (34.8 m^3/s) at 0030 May 8, gage height, 7.55 ft (2.301 m) from rating curve extended above 260 ft^3/s (7.36 m^3/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.20	.10	.01	78	45	1.6	.27	.00
2	.00	.00	.00	1.1	.30	.17	.05	30	41	16	.23	.00
3	.00	.00	.00	.24	.25	.21	.10	30	36	5.8	.21	.00
4	.00	.00	.00	.07	.20	.14	.15	34	30	3.3	.18	.00
5	.00	.00	.00	.12	.10	.06	.20	42	25	2.4	.15	.00
6	.00	.00	.00	.47	.05	.08	.15	42	22	1.8	.10	.00
7	.00	.00	.00	.14	.05	.06	.10	79	18	1.5	.08	.00
8	.00	.00	.00	.05	.05	.04	.05	412	16	1.3	.05	.00
9	.00	.00	.00	.10	.10	.06	.05	105	14	1.2	.03	.00
10	.00	.00	.00	.20	.15	.07	.10	74	18	1.2	.02	.00
11	.00	.00	.00	.25	.15	.09	.15	60	22	1.2	1.0	.00
12	.00	.00	.00	.30	.15	.09	.12	56	15	1.2	.16	.00
13	.00	.00	.00	.25	.15	.04	.08	59	12	.97	.10	.00
14	.00	.00	.00	.20	.10	.06	.08	54	10	1.0	8.1	.00
15	.00	.00	.00	.19	.05	.08	.10	77	9.3	.86	3.2	.00
16	.00	.00	.00	.09	.10	.05	.10	94	8.6	.79	.59	.00
17	.00	.00	.00	.05	.18	.10	.10	58	8.3	.91	.25	.00
18	.00	.00	.00	.05	.20	.06	.11	42	7.6	.92	.19	.00
19	.00	.00	.00	.04	.15	.06	.11	41	7.0	.90	.10	.00
20	.00	.00	.00	.09	.14	.06	.14	42	8.2	.84	.05	.00
21	.00	.00	.00	.08	.10	.06	.21	44	30	.93	.03	.00
22	.00	.00	.00	.05	.06	.04	.21	50	7.7	1.1	.05	.00
23	.00	.00	.00	.40	.06	.04	.43	53	5.9	1.2	.00	.00
24	.00	.00	.00	.41	.06	.05	15	47	4.7	1.1	.00	.00
25	.00	.00	.00	.11	.06	.08	1.0	46	3.7	1.0	.00	.00
26	.00	.00	.00	.05	.07	.04	.72	46	3.1	.80	.00	.00
27	.00	.00	.00	.05	.09	.02	.47	45	2.5	.70	3.0	.00
28	.00	.00	.00	.05	.11	.02	.47	46	2.0	.60	.02	.00
29	.00	.00	.00	.05	.10	.02	1.7	46	1.8	.40	.00	.00
30	.00	.00	.00	.05	---	.02	52	47	1.7	.35	.00	.00
31	.00	---	.00	.10	---	.01	---	46	---	.30	.00	---
TOTAL	.00	.00	.00	5.40	3.53	2.08	74.26	2025	436.1	54.17	18.16	.00
MEAN	.000	.000	.000	.17	.12	.067	2.48	65.3	14.5	1.75	.59	.000
MAX	.00	.00	.00	1.1	.30	.21	52	412	45	16	8.1	.00
MIN	.00	.00	.00	.00	.05	.01	.01	30	1.7	.30	.00	.00
AC-FT	.00	.00	.00	11	7.0	4.1	147	4020	865	107	36	.00

CAL YR 1979 TOTAL 720.07 MEAN 1.97 MAX 49 MIN .00 AC-FT 1430
WTR YR 1980 TOTAL 2618.70 MEAN 7.15 MAX 412 MIN .00 AC-FT 5190

07105945 ROCK CREEK ABOVE FORT CARSON RESERVATION, CO

LOCATION.--Lat 38°42'27", long 104°50'46", in NW¼NW¼ sec.36, T.15 S., R.67 W., El Paso County, Hydrologic Unit 11020003, on right bank 20 ft (6 m) upstream from county road bridge, 0.6 mi (1.0 km) northwest of Rock Creek Park, 1.2 mi (1.9 km) upstream from State Highway 115, and 3.2 mi (5.1 km) southwest of Fort Carson.

DRAINAGE AREA.--6.79 mi² (17.6 km²).

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,390 ft (1,948 m) from topographic map.

REMARKS.--Records good except those Apr. 24 to May 13, and those above 30 ft³/s (0.85 m³/s), which are poor. Several observations of water temperature and specific conductance were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 150 ft³/s (4.25 m³/s) May 8, 1980, gage height, unknown; no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10 ft³/s (0.28 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 8	unknown	*150	4.25	unknown	-	June 10	2030	18	0.51	1.84	0.561
May 15	2345	80	2.27	3.06	0.933						

Minimum daily discharge, 0.02 ft³/s (0.001 m³/s) Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	.51	.32	.34	.32	.45	.85	45	17	1.1	.44	.46
2	.15	.53	.31	.34	.33	.46	.77	40	16	1.9	.76	.38
3	.16	.57	.31	.33	.38	.50	.67	36	15	1.6	.33	.28
4	.18	.51	.31	.34	.38	.47	.70	34	14	1.3	.16	.26
5	.15	.55	.31	.34	.34	.43	.75	40	13	1.2	.20	.22
6	.14	.62	.31	.35	.34	.46	.85	38	12	1.1	.16	.19
7	.14	.62	.34	.34	.36	.47	.95	35	12	.84	.11	.19
8	.13	.62	.34	.36	.34	.44	1.1	100	11	.72	.08	.33
9	.16	.65	.34	.34	.39	.47	1.2	80	11	.71	.02	1.8
10	.24	.60	.34	.36	.34	.50	1.3	60	11	.65	.09	1.2
11	.23	.60	.35	.34	.34	.50	1.4	40	8.7	.65	.07	.80
12	.22	.62	.35	.35	.35	.50	1.4	35	6.6	.84	.09	.55
13	.23	.51	.35	.43	.35	.41	1.5	32	5.7	.73	.08	.58
14	.26	.40	.33	.49	.34	.43	1.5	29	5.1	.68	1.6	.57
15	.20	.35	.34	.59	.34	.48	1.6	39	4.7	.69	1.6	.49
16	.19	.30	.34	.54	.37	.56	1.9	63	4.5	.83	.38	.37
17	.22	.29	.34	.50	.41	.49	2.5	52	4.1	.78	.42	.34
18	.26	.30	.34	.49	.45	.56	3.0	43	3.7	.74	.32	.33
19	.24	.31	.32	.45	.50	.53	4.0	36	3.6	.70	.27	.33
20	.24	.38	.30	.45	.43	.56	5.1	34	3.7	.84	.21	.33
21	.46	.32	.30	.50	.40	.54	6.1	34	3.5	1.4	.18	.32
22	.55	.34	.33	.42	.38	.56	7.2	34	3.2	1.4	.21	.30
23	.48	.34	.34	.42	.38	.57	7.7	34	2.7	1.1	.14	.29
24	.42	.34	.33	.45	.38	.60	12	32	2.3	.89	.12	.29
25	.44	.34	.34	.37	.39	.60	11	30	2.0	.87	.14	.27
26	.42	.33	.34	.31	.41	.57	9.0	27	1.9	1.1	.64	.25
27	.44	.35	.34	.31	.45	.66	8.0	24	1.5	1.0	1.8	.23
28	.47	.32	.30	.31	.45	.63	10	23	1.4	.62	.76	.22
29	.49	.32	.30	.31	.44	.59	17	21	1.2	.33	.49	.21
30	.59	.30	.30	.31	---	.62	30	20	1.2	.25	.59	.20
31	.57	---	.32	.31	---	.55	---	19	---	.32	.66	---
TOTAL	9.22	13.14	10.13	12.09	11.08	16.16	151.04	1209	203.3	27.88	13.12	12.58
MEAN	.30	.44	.33	.39	.38	.52	5.03	39.0	6.78	.90	.42	.42
MAX	.59	.65	.35	.59	.50	.66	30	100	17	1.9	1.8	1.8
MIN	.13	.29	.30	.31	.32	.41	.67	19	1.2	.25	.02	.19
AC-FT	18	26	20	24	22	32	300	2400	403	55	26	25

CAL YR 1979 TOTAL 734.82 MEAN 2.01 MAX 14 MIN .04 AC-FT 1460
WTR YR 1980 TOTAL 1688.74 MEAN 4.61 MAX 100 MIN .02 AC-FT 3350

NOTE.--NO GAGE-HEIGHT RECORD APR. 24 TO MAY 14.

07105950 ROCK CREEK NEAR FORT CARSON, CO

LOCATION.--Lat 38°41'49", long 104°49'39", in SW¼SW¼ sec.31, T.15 S., R.66 W., Hydrologic Unit 11020003, on left bank at Ft. Carson Girl Scout Camp, 0.2 mi (0.3 km) downstream from bridge on State Highway 115 and 2.9 mi (4.7 km) southwest of Fort Carson.

DRAINAGE AREA.--7.79 mi^2 (20.2 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,150 ft (1,875 m) from topographic map.

REMARKS.--Records good except those above 50 ft^3/s (1.42 m^3/s) which are poor. Some diversions above station for irrigation and other uses, amounts unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 164 ft^3/s (4.64 m^3/s) May 8, 1980, from rating curve extended above 50 ft^3/s (1.42 m^3/s); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 164 ft^3/s (4.64 m^3/s) at 1030 May 8, gage height, 5.02 ft (1.530 m), from rating curve extended above 50 ft^3/s (1.42 m^3/s); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.07	47	12	.76	.00	.00
2	.00	.00	.00	.00	.00	.00	.14	41	10	.65	.00	.00
3	.00	.00	.00	.00	.00	.00	.16	36	8.6	.50	.00	.00
4	.00	.00	.00	.00	.00	.00	.17	34	7.4	.47	.00	.00
5	.00	.00	.00	.00	.00	.00	.23	41	6.5	.42	.00	.00
6	.00	.00	.00	.00	.00	.00	.28	40	5.8	.41	.00	.00
7	.00	.00	.00	.00	.00	.00	.30	40	5.2	.37	.00	.00
8	.00	.00	.00	.00	.00	.00	.26	122	4.6	.31	.00	.00
9	.00	.00	.00	.00	.00	.00	.30	83	4.4	.26	.00	.00
10	.00	.00	.00	.00	.00	.00	.33	53	6.0	.23	.00	.00
11	.00	.00	.00	.00	.00	.00	.35	42	6.9	.20	.00	.00
12	.00	.00	.00	.00	.00	.00	.38	36	4.6	.19	.00	.00
13	.00	.00	.00	.00	.00	.00	.41	30	3.9	.16	.00	.00
14	.00	.00	.00	.00	.00	.00	.44	27	3.5	.12	.00	.00
15	.00	.00	.00	.00	.00	.00	.46	39	3.1	.12	.00	.00
16	.00	.00	.00	.00	.00	.00	.44	84	2.9	.11	.00	.00
17	.00	.00	.00	.00	.00	.00	.56	74	2.3	.08	.00	.00
18	.00	.00	.00	.00	.00	.00	.61	60	1.8	.07	.00	.00
19	.00	.00	.00	.00	.00	.00	.64	48	1.7	.06	.00	.00
20	.00	.00	.00	.00	.00	.00	1.3	44	1.6	.04	.00	.00
21	.00	.00	.00	.00	.00	.00	2.4	41	1.7	.02	.00	.00
22	.00	.00	.00	.00	.00	.00	3.2	41	1.4	.01	.00	.00
23	.00	.00	.00	.00	.00	.00	4.9	41	1.4	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	15	38	1.3	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	13	33	1.2	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	9.0	26	1.0	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	7.7	22	1.0	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	9.1	20	.91	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	16	17	.92	.00	.00	.00
30	.00	.00	.00	.00	---	.00	32	15	.85	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	13	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	120.13	1328	114.48	5.56	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	4.00	42.8	3.82	.18	.000	.000
MAX	.00	.00	.00	.00	.00	.00	32	122	12	.76	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.07	13	.85	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	238	2630	227	11	.00	.00

CAL YR 1979 TOTAL 444.76 MEAN 1.22 MAX 20 MIN .00 AC-FT 882
WTR YR 1980 TOTAL 1568.17 MEAN 4.28 MAX 122 MIN .00 AC-FT 3110

07105950 ROCK CREEK NEAR FT. CARSON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	NITROGEN, DISSOLVED (MG/L AS N)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
APR 17...	1330	.58	218	10.5	7.7	--	--	K4	K25	75
MAY 01...	1500	45	108	5.0	--	1.1	1.60	--	--	42

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
APR 17...	23	20	6.0	10	.5	1.8	52	33	5.0	1.7
MAY 01...	18	12	2.9	4.9	.3	1.7	24	18	1.3	1.3

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)
APR 17...	14	125	.17	.20	0	--	.47	--	--
MAY 01...	14	71.0	.10	8.63	42	.15	.15	.03	.01

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)
APR 17...	--	--	--	--	--	--	--	.01	--
MAY 01...	2.9	.89	2.90	2.0	.90	3.1	.07	.04	.05

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
APR 17...	--	--	--	--	--	--	--	--	--
MAY 01...	3000	1	100	0	60	0	0	7	2400

07105950 ROCK CREEK NEAR FT. CARSON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)
APR 17...	<10	--	--	1	--	--	--	--	--
MAY 01...	170	7	80	3	.0	0	6	0	0

DATE	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)
APR 17...	--	--	--	--	--	--	--	--	--
MAY 01...	20	1.4	2.6	2.0	3.8	2.6	1.5	2.4	1.4

07105960 ROCK CREEK NEAR FOUNTAIN, CO

LOCATION.--Lat 38°39'16", long 104°44'48", in NE¼SW¼ sec.14, T.16 S., R.66 W., El Paso County, Hydrologic Unit 11020003, on left bank at edge of Military Road No. 1 on Fort Carson Military Reservation, 1.1 mi (1.8 km) upstream from mouth at Little Fountain Creek and 3.2 mi (5.1 km) southwest of Fountain.

DRAINAGE AREA.--16.9 mi² (43.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder and steel v-notch weir. Altitude of gage is 5,600 ft (1,707 m) from topographic map.

REMARKS.--Records good except those above 50 ft³/s (1.42 m³/s) which are poor. Diversions above this station for irrigation and recreation, amounts unknown.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 131 ft³/s (3.71 m³/s) May 8, 1980, gage height, 4.07 ft (1.240 m), from rating curve extended above 50 ft³/s (1.42 m³/s); minimum daily, 0.01 ft³/s (0.001 m³/s) Aug. 31 to Sept. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 131 ft³/s (3.71 m³/s) at 1245 May 8, gage height, 4.07 ft (1.240 m); minimum daily, 0.09 ft³/s (0.002 m³/s) Oct. 1, 6-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.21	.32	.24	.18	.24	.38	39	12	.83	.45	.45
2	.10	.23	.32	.24	.24	.26	.38	40	11	1.3	.40	.45
3	.11	.23	.32	.24	.24	.28	.36	36	9.2	1.1	.40	.59
4	.12	.23	.32	.24	.24	.28	.38	35	8.1	.92	.40	.60
5	.11	.21	.32	.24	.24	.28	.36	39	7.2	.81	.40	.60
6	.09	.21	.32	.25	.24	.28	.35	39	6.6	.80	.40	.59
7	.09	.24	.31	.24	.24	.28	.36	39	5.9	.77	.45	.50
8	.09	.24	.32	.24	.23	.28	.29	99	5.8	.74	.50	.55
9	.11	.19	.33	.24	.29	.28	.32	77	5.5	.63	.60	.59
10	.11	.18	.32	.28	.28	.28	.35	51	6.1	.63	.55	.55
11	.11	.18	.25	.23	.28	.31	.35	41	7.7	.62	.45	.43
12	.12	.19	.24	.24	.28	.31	.28	38	5.8	.62	.45	.35
13	.12	.20	.24	.25	.24	.26	.29	35	4.4	.59	.44	.36
14	.12	.18	.24	.24	.24	.28	.28	34	3.8	.59	.51	.36
15	.12	.15	.24	.24	.24	.30	.29	39	3.5	.53	.60	.36
16	.14	.17	.24	.24	.32	.30	.27	75	3.2	.52	.62	.36
17	.17	.21	.24	.24	.32	.29	.28	61	2.9	.54	.63	.40
18	.17	.21	.24	.24	.31	.32	.28	51	2.6	.56	.65	.40
19	.18	.22	.24	.22	.28	.32	.27	40	2.5	.50	.67	.40
20	.15	.23	.21	.23	.28	.33	.28	38	2.8	.50	.62	.40
21	.19	.21	.21	.24	.28	.38	.28	36	3.1	.50	.56	.36
22	.18	.21	.22	.24	.27	.40	.27	36	2.4	.50	.56	.40
23	.21	.22	.21	.24	.27	.43	.30	36	2.0	.50	.50	.40
24	.21	.24	.21	.23	.26	.39	1.6	35	1.7	.45	.50	.40
25	.21	.25	.21	.23	.28	.38	5.1	33	1.5	.45	.45	.40
26	.21	.27	.21	.21	.28	.38	4.6	30	1.2	.45	.45	.40
27	.21	.25	.21	.21	.24	.39	4.3	27	.99	.45	.42	.37
28	.21	.24	.21	.20	.25	.39	4.4	24	.86	.45	.36	.36
29	.21	.26	.24	.22	.28	.37	5.3	21	.85	.45	.36	.33
30	.19	.28	.24	.19	---	.40	12	17	.84	.45	.40	.32
31	.21	---	.24	.18	---	.41	---	14	---	.45	.44	---
TOTAL	4.66	6.54	7.99	7.21	7.62	10.08	44.55	1255	132.04	19.20	15.19	13.03
MEAN	.15	.22	.26	.23	.26	.33	1.49	40.5	4.40	.62	.49	.43
MAX	.21	.28	.33	.28	.32	.43	12	99	12	1.3	.67	.60
MIN	.09	.15	.21	.18	.18	.24	.27	14	.84	.45	.36	.32
AC-FT	9.2	13	16	14	15	20	88	2490	262	38	30	26

CAL YR 1979 TOTAL 178.16 MEAN .49 MAX 13 MIN .03 AC-FT 353
WTR YR 1980 TOTAL 1523.11 MEAN 4.16 MAX 99 MIN .09 AC-FT 3020

07106300 FOUNTAIN CREEK NEAR PINON. CO

LOCATION.--Lat 38°26'50", long 104°35'28", in NE¼NE¼ sec.31. T.18 S.. R.64 W.. Pueblo County. Hydrologic Unit 11020002. near left bank on downstream side of county road bridge. 1.2 mi (1.9 km) northeast of Pinon. and 3.2 mi (5.1 km) upstream from Steele Hollow Creek.

DRAINAGE AREA.--849 mi^2 (2.199 km^2). revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5.005 ft (1.526 m). from topographic map. Prior to Apr. 23. 1976. nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter period. which are fair. and those below 2.75 ft (0.838 m). which are poor. Natural flow of stream affected by storage reservoirs. power developments. transbasin and transmountain diversions municipal use. diversions above station for irrigation of about 10.000 acres (40 km^2) and municipal use. and return flow from irrigated areas.

AVERAGE DISCHARGE.--7 years. 63.5 ft^3/s (1.798 m^3/s). 46.010 acre-ft/yr (56.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. 10.200 ft^3/s (289 m^3/s) May 8. 1980. gage height. 7.05 ft (2.149 m). from rating curve extended above 7.300 ft^3/s (207 m^3/s); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge. 10.200 ft^3/s (289 m^3/s) at 1400 May 8. gage height. 7.05 ft (2.149 m). from rating curve extended above 7.300 ft^3/s (207 m^3/s); no flow Oct. 1-9.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	30	26	80	86	111	105	1990	500	21	.30	28
2	.00	72	39	80	88	100	129	978	504	113	.25	24
3	.00	100	80	68	92	68	90	896	406	496	.20	12
4	.00	44	85	85	96	61	76	901	320	26	.20	11
5	.00	32	52	80	100	76	105	1110	211	22	.18	11
6	.00	30	44	90	72	80	90	1470	173	19	.20	8.7
7	.00	34	39	95	68	80	76	1390	131	17	.20	2.2
8	.00	41	30	90	65	72	65	4140	208	11	117	.95
9	.00	65	21	85	62	76	65	2360	250	11	18	111
10	.30	90	19	76	111	58	45	1750	400	7.0	10	163
11	2.5	90	17	72	72	58	65	1220	325	9.3	7.0	149
12	1.8	90	14	117	135	49	105	1350	103	7.0	5.0	72
13	3.2	105	26	129	49	45	76	1570	150	4.8	20	68
14	8.1	149	15	129	85	55	85	1470	152	3.0	223	49
15	8.7	149	24	117	76	41	80	1730	116	1.8	1130	44
16	8.7	163	28	123	111	26	90	2140	165	.10	316	39
17	8.7	135	17	163	111	55	90	1420	153	.13	72	39
18	9.3	179	26	142	149	100	65	1190	126	.15	61	19
19	9.3	100	39	171	163	85	52	1260	67	.17	45	13
20	10	111	45	187	135	95	44	1270	449	.50	15	11
21	10	117	52	142	111	76	49	1160	565	10	10	3.6
22	18	123	90	142	111	80	52	1340	117	3.0	10	4.8
23	18	80	129	142	72	90	39	1220	100	2.0	10	36
24	21	95	85	142	68	61	814	1150	90	.80	10	36
25	21	85	80	149	65	58	469	1050	80	.25	10	39
26	21	58	76	149	72	61	310	928	68	3.0	30	36
27	21	61	80	100	100	100	220	820	36	1.0	543	39
28	21	44	142	82	90	90	129	736	34	.70	149	26
29	21	24	90	80	80	90	156	620	26	.50	45	24
30	28	26	187	80	---	105	621	608	21	.70	44	18
31	34	---	90	82	---	90	---	567	---	.50	61	---
TOTAL	304.60	2522	1787	3469	2695	2292	4457	41804	6046	792.40	2962.53	1137.25
MEAN	9.83	84.1	57.6	112	92.9	73.9	149	1349	202	25.6	95.6	37.9
MAX	34	179	187	187	163	111	814	4140	565	496	1130	163
MIN	.00	24	14	68	49	26	39	567	21	.10	.18	.95
AC-FT	604	5000	3540	6880	5350	4550	8840	82920	11990	1570	5880	2260

CAL YR 1979 TOTAL 25554.66 MEAN 70.0 MAX 703 MIN .00 AC-FT 50690
WTR YR 1980 TOTAL 70268.78 MEAN 192 MAX 4140 MIN .00 AC-FT 139400

NOTE.--NO GAGE-HEIGHT RECORD OCT. 1 TO NOV. 7. JAN. 10 TO FEB. 13.

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1976 to September 1979.
WATER TEMPERATURE: October 1976 to September 1979.

INSTRUMENTATION.--Water-quality monitor from October 1976 to September 1979.

REMARKS.--Previously unpublished data for 1976 and 1977 water years are published in this report. Daily maximum and minimum specific-conductance data available in district office.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 5,070 micromhos July 24, 1979; minimum, 204 micromhos several days in October and November, 1978.
WATER TEMPERATURES: Maximum, 34.5°C July 24, 1977; minimum, freezing point on many days during winter months.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)
JUL										
20...	1015	28	890	7.7	23.0	5.8	--	--	--	300
20...	1115	28	920	7.8	25.0	5.8	--	--	--	320
20...	1200	16	875	7.8	26.0	5.8	--	--	--	300
20...	1230	12	870	7.9	26.0	5.9	--	--	--	310
20...	1315	9.3	890	7.9	27.0	5.9	--	--	--	320
20...	1345	7.0	950	7.9	28.0	5.8	--	--	--	330
20...	1415	5.2	1110	8.0	29.0	5.7	--	--	--	340
20...	1445	3.6	1120	8.0	31.0	4.9	--	--	--	360
20...	1515	1.8	1050	8.1	31.0	4.9	35.0	53000	41000	390
AUG										
02...	0940	--	590	7.8	17.0	--	37.0	49000	91000	200
02...	1100	--	650	--	17.0	--	--	41000	59000	200
02...	1240	--	645	--	17.0	--	--	K67000	K110000	200
02...	1400	--	525	7.8	17.0	--	43.0	68000	K140000	160
02...	1530	--	500	7.8	17.0	--	37.0	54000	86000	170
02...	1830	--	575	7.8	16.5	--	38.0	53000	88000	160
02...	2015	--	575	7.8	16.5	6.9	38.0	51000	91000	160
02...	2130	--	490	7.9	16.0	7.0	30.0	48000	K130000	160
02...	2300	--	560	7.9	16.0	7.1	30.0	58000	89000	160
03...	0030	--	550	8.0	16.0	7.4	30.0	39000	K110000	190
03...	0230	--	861	7.9	15.0	7.5	28.0	33000	73000	270
03...	1115	--	600	7.9	17.5	--	26.0	34000	42000	240
03...	1430	--	550	7.9	21.5	--	23.0	20000	27000	220
04...	1000	--	570	8.1	19.0	7.8	24.0	21000	20000	230
04...	1445	--	620	8.1	24.0	6.7	19.0	8200	16000	240
05...	1430	--	904	8.1	27.0	6.2	19.0	9000	K1200	300
25...	1430	--	1240	8.0	29.0	5.3	34.0	K93000	71000	410
SEP										
26...	1130	--	915	7.5	13.0	8.1	--	--	--	290
26...	1345	--	780	7.5	13.5	8.1	--	--	--	220
27...	1445	--	730	7.6	12.0	8.5	--	--	--	230

K BASED ON NON-IDEAL COLONY COUNT.

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
JUL										
20...	80	81	24	95	2.4	8.5	221	290	38	1.8
20...	110	86	25	94	2.3	8.5	212	300	37	1.7
20...	130	82	24	89	2.2	8.3	171	300	36	1.8
20...	120	84	24	91	2.3	8.2	191	290	36	1.7
20...	130	87	25	94	2.3	8.3	194	300	37	1.7
20...	170	90	26	100	2.4	8.3	159	320	40	1.8
20...	160	92	26	100	2.4	8.3	177	330	41	1.8
20...	190	99	27	110	2.5	8.3	173	340	44	1.8
20...	190	110	29	110	2.4	8.4	207	350	44	1.9
AUG										
02...	110	63	9.7	56	1.7	4.0	92	190	19	1.1
02...	110	64	9.9	57	1.8	4.0	93	200	20	1.1
02...	52	63	9.7	58	1.8	4.1	145	170	21	1.1
02...	81	49	8.4	43	1.5	4.1	76	140	15	1.0
02...	93	51	9.3	40	1.4	4.3	72	150	13	.9
02...	84	47	9.4	36	1.3	4.4	72	140	12	.9
02...	91	48	9.8	38	1.3	4.6	70	140	12	1.0
02...	90	47	10	40	1.4	4.6	69	150	13	1.0
02...	99	49	10	42	1.4	4.7	65	150	15	1.0
03...	97	58	11	42	1.3	5.5	93	170	12	.9
03...	210	80	17	54	1.4	6.3	56	300	12	.9
03...	160	71	15	47	1.3	5.4	77	230	15	1.4
03...	140	64	14	45	1.3	5.5	82	190	15	1.5
04...	120	65	16	56	1.6	4.9	103	200	21	1.7
04...	130	69	16	60	1.7	5.5	112	210	23	1.8
05...	170	85	21	82	2.1	6.1	134	270	32	2.1
25...	210	110	32	130	2.8	8.7	192	380	58	2.3
SEP										
26...	140	79	23	95	2.4	6.8	154	290	39	1.7
26...	91	59	18	70	2.0	5.9	130	210	27	1.4
27...	110	61	18	63	1.8	5.2	113	220	22	1.2

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
JUL										
20...	12	703	.96	1200	1.90	1.70	22	24.0	26	12.0
20...	12	709	.96	988	1.50	1.30	12	13.0	15	12.0
20...	11	672	.91	766	1.80	.95	12	13.0	15	9.10
20...	11	678	.92	646	2.10	.71	8.4	9.10	11	8.30
20...	11	697	.95	507	1.90	.88	7.9	8.80	11	7.10
20...	11	709	.96	445	2.30	.56	5.1	5.70	8.0	6.40
20...	12	733	1.00	353	2.60	.34	4.2	4.50	7.1	5.50
20...	12	761	1.04	292	2.50	.40	3.3	3.70	6.2	4.30
20...	12	804	1.09	257	2.80	.17	9.8	10.0	13	4.30
AUG										
02...	8.8	415	.56	16800	1.90	.06	19	19.0	21	1.80
02...	8.7	428	.58	14500	1.90	.03	21	21.0	23	2.70
02...	8.9	432	.59	14700	2.00	.03	22	22.0	24	2.60
02...	7.3	321	.44	15500	1.50	.07	18	18.0	20	13.0
02...	6.7	326	.44	12400	1.50	.05	17	17.0	19	16.0
02...	5.8	303	.41	9420	1.10	.07	12	12.0	13	8.70
02...	5.6	306	.42	9720	1.10	.05	12	12.0	13	7.60
02...	5.5	317	.43	6920	1.00	.11	9.5	9.60	11	2.50
02...	5.8	321	.44	9360	1.30	.08	8.0	8.10	9.4	2.30
03...	5.3	365	.50	17200	1.10	.11	14	14.0	15	7.10
03...	5.3	515	.70	13600	1.50	.05	14	14.0	16	10.0
03...	8.2	445	.61	7540	1.30	.05	9.1	9.20	10	2.40
03...	9.3	399	.54	6210	1.20	.06	4.8	4.90	6.1	1.90
04...	12	446	.61	3360	1.40	.03	4.3	4.30	5.7	1.80
04...	13	472	.64	2920	1.40	.05	4.0	4.00	5.4	1.90
05...	15	603	.82	1290	1.90	<.01	2.6	2.60	4.5	1.50
25...	14	871	1.18	7480	2.80	.85	7.5	8.30	11	9.90
SEP										
26...	11	653	.89	9780	2.90	.82	9.1	9.90	13	6.60
26...	9.4	493	.67	8050	2.70	.95	8.6	9.50	12	7.60
27...	8.2	477	.65	11900	2.20	.21	1.8	2.00	4.2	2.10

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)
JUL					
20...	0	540	1300	--	<1
20...	0	480	1200	--	<1
20...	0	370	950	--	<1
20...	0	310	800	--	<1
20...	0	260	650	--	<1
20...	0	210	550	--	<1
20...	0	180	450	--	2
20...	0	150	400	--	2
20...	0	130	300	--	2
AUG					
02...	0	460	800	1.1	--
02...	0	390	650	1.1	--
02...	0	450	800	1.4	--
02...	0	460	860	1.2	--
02...	0	390	700	1.0	--
02...	0	300	700	.8	--
02...	0	320	800	1.0	--
02...	0	280	660	.7	--
02...	0	270	600	.7	--
02...	0	610	860	.5	11
03...	0	450	640	.7	--
03...	0	230	400	.5	--
03...	0	170	300	<.5	--
03...	0	100	200	<.5	--
04...	0	100	200	<.5	4
04...	0	60	<200	<.5	3
05...	0	320	600	.8	6
25...					
SEP					
26...	0	290	600	--	11
26...	0	230	600	--	8
27...	0	220	400	--	14

DATE	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)
SEP							
26...	.0	.00	.00	.00	.00	.00	.01
27...	.0	.00	.00	.00	.00	.00	.01

DATE	DIELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)
SEP						
26...	.00	.00	.00	.00	.00	0
27...	.00	.00	.00	.00	.00	0

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
MAY 04...	1250	18	1050	8.2	21.0	7.0	K33	450	240	120

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)
MAY 04...	36	140	2.9	5.6	210	430	54	2.2	14	940

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
MAY 04...	1.28	45.7	114	1.90	1.10	1.4	2.50	4.4	.65

DATE	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)
MAY 04...	0	<20	<200	<.5	3

K BASED ON NON-IDEAL COLONY COUNT.

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
DEC 05...	1400	532	1340	8.1	7.0	10.3	--	1600	420	410	210
APR 15...	1030	61	1230	8.0	14.0	8.2	--	K15	--	370	210
MAY 08...	1730	4900	720	7.8	9.5	9.0	13.0	K1400	--	--	--
JUN 18...	0900	168	1000	8.1	19.0	7.6	--	K100	--	300	130
JUL 15...	1115	1.8	1380	8.0	25.0	5.7	3.60	K40	--	--	--
AUG 29...	0930	48	1300	7.8	17.0	7.4	16.0	K20	--	--	--
SEP 23...	1430	35	1450	7.9	22.0	7.6	11.1	K280	--	--	--

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
DEC 05...	110	34	140	3.0	7.2	200	390	66	1.9	15	884
APR 15...	97	32	--	--	7.3	160	--	--	--	--	--
MAY 08...	--	--	--	--	--	--	--	--	--	--	--
JUN 18...	82	24	--	--	--	170	--	--	--	--	--
JUL 15...	--	--	--	--	--	--	--	--	--	--	--
AUG 29...	--	--	--	--	--	--	--	--	--	--	--
SEP 23...	--	--	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
DEC 05...	1.20	1270	634	4.5	.06	4.60	.32	2.1	2.40	7.0	2.00
APR 15...	--	--	344	5.2	.36	5.60	.50	2.0	2.50	8.1	3.10
MAY 08...	--	--	7820	--	--	1.10	.08	--	--	--	3.90
JUN 18...	--	--	263	2.7	.01	2.70	.00	.87	.87	3.6	1.40
JUL 15...	--	--	10	--	--	.61	.00	--	--	--	.50
AUG 29...	--	--	498	--	--	2.30	.07	--	--	--	.84
SEP 23...	--	--	248	--	--	2.90	.04	--	--	--	1.40

K BASED ON NON-IDEAL COLONY COUNT.

07106300 FOUNTAIN CREEK NEAR PINON, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
DEC 05...	--	--	--	0	0	--	--	--
APR 15...	0	1	1	0	0	17	9000	18
MAY 08...	--	6	--	--	2	230	190000	220
JUN 18...	0	1	1	0	0	6	6100	12

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)
DEC 05...	--	--	--	--	0	--	--	--	--
APR 15...	360	.1	21	4	--	0	80	10	14
MAY 08...	5000	.7	--	--	--	2	1000	--	--
JUN 18...	200	.0	13	5	--	0	80	<6.2	22

DATE	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
DEC 05...	--	--	--	--	--	--	--	--
APR 15...	15	20	13	12	10	12	.11	7.2
MAY 08...	--	--	--	--	--	--	--	--
JUN 18...	<9.1	33	7.2	21	6.9	21	.11	7.3

07106500 FOUNTAIN CREEK AT PUEBLO, CO

LOCATION.--Lat 38°17'16", long 104°36'02", in SE¼SW¼ sec.19, T.20 S., R.64 W., Pueblo County, Hydrologic Unit 11020003, on right bank at upstream side of bridge on U.S. Highway 50 at Pueblo and 2.6 mi (4.2 km) upstream from mouth.

DRAINAGE AREA.--926 mi² (2,398 km²).

PERIOD OF RECORD.--January 1922 to September 1925, October 1940 to September 1965, February 1971 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WDR CO-79-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,705 ft (1,434 m), from topographic map. See WSP 1711 or 1731 for history of changes prior to Oct. 1, 1940, and WSP 1921 for changes prior to Sept. 30, 1965. Feb. 1, 1971, to Sept. 30, 1976, water-stage recorder at site 1.4 mi (2.3 km) upstream at datum 4,725.30 ft (1,440.271 m), National Geodetic Vertical Datum of 1929 (unadjusted).

REMARKS.--Records fair. Natural flow of stream affected by storage reservoirs, power developments, transbasin and transmountain diversions for municipal use, diversions for irrigation of about 14,000 acres (57 km²) above station and municipal use, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--37 years (water years 1923-25, 1941-65, 1972-80), 56.6 ft³/s (1.603 m³/s), 41,010 acre-ft/yr (50.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,000 ft³/s (1,330 m³/s) June 17, 1965, gage height, 19.0 ft (5.79 m), from floodmarks, site and datum then in use, from rating curve extended above 400 ft³/s (11 m³/s), on basis of contracted-opening measurement of peak flow; no flow at times many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1903, that of June 17, 1965. Flood of June 4, 1921, reached a discharge of 34,000 ft³/s (963 m³/s), by slope-area measurement. Flood of May 30, 1935, reached a discharge of 35,000 ft³/s (991 m³/s), by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,200 ft³/s (430 m³/s) at 2300 Aug. 14, gage height, 7.80 ft (2.377 m), from floodmark; minimum daily, 0.29 ft³/s (0.008 m³/s) Oct. 11-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	54	70	80	130	101	157	2410	279	16	1.0	59
2	.72	62	72	102	180	113	165	482	278	98	1.0	54
3	.59	52	70	108	220	105	167	263	251	652	.70	51
4	.47	52	84	104	178	101	121	300	200	104	.70	39
5	.47	50	76	110	145	98	115	439	250	94	.42	37
6	.47	46	72	138	132	94	116	580	176	63	.70	31
7	.47	46	68	125	120	95	115	1010	160	49	.70	35
8	.37	46	67	115	120	93	108	4080	181	36	.42	281
9	.37	45	67	106	148	90	101	2800	222	31	129	82
10	.37	45	67	97	166	88	97	923	235	24	27	61
11	.29	45	66	117	125	87	94	605	488	17	19	53
12	.29	45	58	95	115	90	96	479	302	32	18	52
13	.37	51	57	113	100	79	94	614	240	36	25	53
14	3.3	53	58	128	97	72	92	623	210	26	1420	54
15	8.1	52	63	119	91	69	91	1100	160	9.5	2020	52
16	8.8	53	61	114	93	70	89	1310	148	4.7	344	50
17	8.8	52	62	103	96	78	85	782	148	2.9	96	43
18	9.7	53	65	101	96	90	84	982	142	2.6	89	44
19	12	50	67	99	101	86	85	894	118	2.6	59	39
20	12	68	68	92	103	86	79	725	678	2.0	43	31
21	17	63	71	95	97	86	75	853	471	25	39	25
22	36	59	75	96	95	83	80	1040	135	48	39	18
23	26	59	80	93	94	89	71	1310	93	31	46	13
24	16	58	78	93	93	133	405	1340	95	8.3	45	19
25	12	56	74	95	94	103	902	1010	62	2.6	48	23
26	12	55	76	77	97	96	479	703	38	3.6	54	22
27	11	54	74	70	96	103	264	531	31	7.0	346	24
28	14	50	72	66	96	153	174	580	28	1.0	117	22
29	20	49	70	64	96	111	154	500	27	.42	63	23
30	24	73	70	70	---	103	481	480	20	2.4	53	21
31	43	---	74	90	---	103	---	331	---	1.0	58	---
TOTAL	299.85	1596	2152	3075	3414	2948	5236	30079	5866	1432.62	5202.64	1411
MEAN	9.67	53.2	69.4	99.2	118	95.1	175	970	196	46.2	168	47.0
MAX	43	73	84	138	220	153	902	4080	678	652	2020	281
MIN	.29	45	57	64	91	69	71	263	20	.42	.42	13
AC-FT	595	3170	4270	6100	6770	5850	10390	59660	11640	2840	10320	2800

CAL YR 1979 TOTAL 23425.14 MEAN 64.2 MAX 417 MIN .07 AC-FT 46460
WTR YR 1980 TOTAL 62712.11 MEAN 171 MAX 4080 MIN .29 AC-FT 124400

07108900 ST. CHARLES RIVER AT VINELAND, CO

LOCATION.--Lat 38°14'44", long 104°29'09", in NE¼SW¼ sec.6, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank at right downstream end of downstream bridge on U.S. Highway 50C, 1.6 mi (2.6 km) west of Vineland, and 3.0 mi (3.9 km) upstream from mouth.

DRAINAGE AREA.--474 mi^2 (1,228 km^2).

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,581.58 ft (1,396.465 m) (Colorado Division of Highways benchmark).

REMARKS.--Records good except those for winter period and those above 1,800 ft^3/s (51.0 m^3/s), which are fair. Natural flow of stream affected by diversions above station for irrigation of about 8,500 acres (34.4 km^2), and for industrial uses, and return flow from land irrigated by Bessemer Ditch. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,940 ft^3/s (140 m^3/s) May 16, 1980, gage height, 9.80 ft (2.987 m), from rating curve extended above 1,800 ft^3/s (51.0 m^3/s); minimum daily, 0.25 ft^3/s (0.007 m^3/s) Apr. 25, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1901, 56,000 ft^3/s (1,590 m^3/s) at a site 5.0 mi (8.0 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,940 ft^3/s (140 m^3/s), at 0745 May 16, gage height, 9.80 ft (2.987 m), from rating curve extended above 1,800 ft^3/s (51.0 m^3/s); minimum daily, 2.5 ft^3/s (0.071 m^3/s) Apr. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	7.5	11	7.7	7.7	9.5	12	890	155	22	4.6	5.6
2	6.6	7.8	10	8.7	8.0	9.9	18	868	155	19	6.5	5.6
3	7.8	8.2	9.0	8.6	8.2	10	23	703	153	16	6.7	5.0
4	6.0	7.7	9.0	8.1	8.9	11	22	766	149	15	5.7	4.4
5	5.6	7.7	8.5	7.9	9.0	12	20	621	140	13	2.9	4.4
6	5.4	8.2	8.5	8.4	9.7	11	19	392	143	13	4.2	5.0
7	5.5	8.6	8.5	8.2	9.9	11	14	430	124	11	3.9	5.0
8	5.3	9.3	8.0	7.4	8.9	11	8.0	650	119	9.8	6.3	4.4
9	6.4	8.6	8.0	7.1	8.8	11	7.5	750	139	9.0	7.3	5.6
10	7.4	8.5	8.0	7.1	8.9	13	8.0	620	155	6.1	5.0	6.3
11	7.3	8.2	8.0	6.4	8.2	17	7.0	540	182	4.5	7.2	7.0
12	6.3	9.2	7.5	7.0	9.0	16	6.2	447	136	5.7	4.8	5.6
13	5.5	8.9	7.5	7.9	9.8	14	5.2	314	104	6.2	6.8	5.6
14	6.0	8.9	7.5	8.0	12	14	7.6	182	83	5.0	247	7.0
15	7.1	9.1	8.0	7.9	11	15	7.5	229	75	4.5	205	7.6
16	7.1	8.9	7.5	8.7	10	17	6.9	1550	62	3.3	47	7.0
17	7.1	8.9	7.0	8.9	11	40	6.4	822	51	3.3	22	6.7
18	6.0	9.0	7.0	9.0	11	14	7.9	818	48	3.3	12	6.4
19	6.0	9.3	7.5	8.8	12	13	8.2	520	46	3.5	11	6.9
20	7.5	11	7.5	8.9	11	13	8.3	431	65	4.8	10	6.8
21	9.0	9.7	7.5	8.6	11	13	3.1	365	54	5.9	10	7.6
22	8.5	9.9	7.5	9.4	11	10	4.9	322	38	7.1	11	7.3
23	7.5	9.8	8.5	8.6	9.9	13	15	265	39	7.4	9.2	7.0
24	6.0	9.3	8.0	9.0	9.7	12	105	284	42	5.9	8.3	7.0
25	6.0	10	8.0	8.5	9.3	8.9	505	257	33	4.8	7.2	7.0
26	6.5	10	8.1	7.5	8.6	7.7	380	194	32	4.7	7.6	7.5
27	6.0	11	8.7	7.2	10	8.7	370	140	29	5.1	8.0	7.4
28	7.0	11	7.5	7.2	9.8	11	350	164	28	5.1	7.5	7.3
29	7.0	12	7.0	7.4	9.7	11	294	154	25	5.0	8.4	7.5
30	6.6	12	7.0	7.3	---	10	293	155	23	2.5	8.0	7.2
31	7.6	---	7.7	7.1	---	11	---	170	---	4.8	7.2	---
TOTAL	205.7	278.2	249.0	248.5	282.0	398.7	2542.7	15013	2627	236.3	718.3	190.7
MEAN	6.64	9.27	8.03	8.02	9.72	12.9	84.8	484	87.6	7.62	23.2	6.36
MAX	9.0	12	11	9.4	12	40	505	1550	182	22	247	7.6
MIN	5.3	7.5	7.0	6.4	7.7	7.7	3.1	140	23	2.5	2.9	4.4
AC-FT	408	552	494	493	559	791	5040	29780	5210	469	1420	378

CAL YR 1979 TOTAL 3717.85 MEAN 10.2 MAX 85 MIN .25 AC-FT 7370
WTR YR 1980 TOTAL 22990.10 MEAN 62.8 MAX 1550 MIN 2.5 AC-FT 45600

07109500 ARKANSAS RIVER NEAR AVONDALE, CO

LOCATION.--Lat 38°14'53", long 104°23'55", in NE¼SW¼ sec.1, T.21 S., R.63 W., Pueblo County, Hydrologic Unit 11020002, on right bank 15 ft (5 m) downstream from bridge on Sixmile Rd., 0.3 mi (0.5 km) upstream from Sixmile Creek, and 2.6 mi (4.2 km) west of Avondale.

DRAINAGE AREA.--6,327 mi^2 (16,387 km^2).

PERIOD OF RECORD.--May 1939 to September 1951, February 1965 to current year.

REVISED RECORDS.--WSP 1087: 1942. WSP 1311: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,509.53 ft (1,374.505 m) National Geodetic Vertical Datum of 1929. Prior to February 1965, at site 550 ft (170 m) downstream at datum 1.37 ft (0.418 m) lower.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 123,000 acres (498 km^2) and municipal use, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--6 years (water years 1975-80), 764 ft^3/s (21.63 m^3/s), 553,500 acre-ft/yr (682 hm^3/yr), subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 50,000 ft^3/s (1,416 m^3/s) June 18, 1965, gage height, 9.77 ft (2.978 m), from rating curve extended above 6,700 ft^3/s (190 m^3/s), on basis of records for station near Pueblo and indirect measurements of peak flow on Fountain Creek at Pueblo, Chico Creek near North Avondale, and Arkansas River near North Avondale; minimum daily, 50 ft^3/s (1.42 m^3/s) Apr. 2, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,200 ft^3/s (289 m^3/s) at 0500 Aug. 15, gage height, 7.45 ft (2.271 m); minimum daily, 203 ft^3/s (5.75 m^3/s) Jan. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	392	390	282	235	250	294	515	5270	3190	3330	1400	793
2	372	400	237	250	271	327	586	4350	2880	3060	1410	566
3	356	410	243	251	286	321	583	3720	2870	2470	1450	542
4	364	420	251	236	318	316	516	2520	2870	3680	1440	503
5	400	440	251	227	310	315	511	3240	2990	3200	1370	399
6	400	453	248	229	283	312	521	2680	3340	2440	1400	375
7	428	470	243	221	500	308	552	3630	3930	2310	1420	348
8	544	481	236	236	419	304	614	5370	3970	2470	1400	350
9	600	473	228	234	385	296	552	4900	4450	2350	1440	613
10	605	427	223	245	386	298	489	5370	4540	2350	1370	673
11	578	436	234	278	385	303	472	5110	5290	2250	1310	706
12	578	458	236	258	383	501	482	4930	5270	2000	1320	709
13	582	462	227	271	383	540	471	3540	5440	1960	1720	715
14	578	485	221	288	388	530	456	3450	5510	1920	1870	666
15	578	493	231	284	387	559	427	3800	5540	1930	5520	626
16	508	473	225	279	379	687	528	4950	5470	1990	1950	581
17	332	473	225	267	380	772	551	4260	5340	1790	1800	498
18	306	466	233	264	382	566	518	5210	5280	1520	1680	461
19	299	468	229	269	382	538	452	5090	5310	1390	1610	497
20	310	549	228	260	367	508	337	5820	5020	1330	1230	563
21	348	489	249	260	334	540	380	5690	5650	1410	1170	510
22	348	495	226	265	325	492	432	4450	5200	1410	1150	516
23	412	488	242	258	329	538	922	3410	4670	1570	1150	621
24	432	455	235	237	324	702	1850	3730	4200	1540	1140	621
25	364	499	227	232	324	669	3790	4110	4040	1480	1140	524
26	396	637	227	215	281	466	3300	4040	4020	1430	1150	564
27	380	547	243	203	292	478	1840	3800	4270	1420	1270	589
28	340	543	261	206	283	478	1810	3310	3830	1410	1260	612
29	340	589	264	228	290	486	1760	2780	3810	1390	1080	593
30	360	430	241	235	---	474	1940	3330	3730	1390	870	520
31	370	---	233	245	---	462	---	3410	---	1410	776	---
TOTAL	13200	14299	7379	7666	10006	14380	28157	129270	131920	61600	46266	16854
MEAN	426	477	238	247	345	464	939	4170	4397	1987	1492	562
MAX	605	637	282	288	500	772	3790	5820	5650	3680	5520	793
MIN	299	390	221	203	250	294	337	2520	2870	1330	776	348
AC-FT	26180	28360	14640	15210	19850	28520	55850	256400	261700	122200	91770	33430

CAL YR 1979 TOTAL 332017 MEAN 910 MAX 5030 MIN 166 AC-FT 658600
WTR YR 1980 TOTAL 480997 MEAN 1314 MAX 5820 MIN 203 AC-FT 954100

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April to October 1976, April 1979 to September 1980 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1979 to September 1980.
WATER TEMPERATURE: July 1979 to September 1980.
pH: July 1979 to September 1980.
DISSOLVED OXYGEN: July 1979 to September 1980.

INSTRUMENTATION.--Water-quality monitor since July 1979.

REMARKS.--Water-quality records for period April to October 1976 are published in U.S. Geological Survey reports Water Resources Investigations 80-38 and Open-File Report 80-1185. Records for April 1979 to April 1980 are published in Open-File Report 80-1185. Records for May to September 1980 are published in this report.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,380 micromhos Jan. 24, 25; minimum, 246 micromhos June 16.
WATER TEMPERATURES: Maximum, 31.5°C Aug. 6; minimum, 1.0°C Jan. 8, 30, 31.
pH: Maximum, 8.6 units July 20, 21; minimum, 7.4 units May 13.
DISSOLVED OXYGEN: Not determined.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT											
01...	1400	450	645	8.0	21.0	8.8	2.00	K52	46	250	140
DEC											
03...	1500	191	1160	7.9	10.5	--	5.20	K36	96	430	260
APR											
15...	1300	435	925	8.2	15.5	11.1	3.00	K3200	--	150	13
JUN											
17...	1430	5320	355	7.9	19.5	7.7	--	K100	--	140	60

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
OCT											
01...	68	20	30	.8	3.5	110	200	10	.6	7.6	406
DEC											
03...	110	38	82	1.7	5.8	170	390	34	1.2	9.8	773
APR											
15...	12	30	--	--	4.6	140	--	--	--	--	--
JUN											
17...	38	11	--	--	--	80	--	--	--	--	--

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C. SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT											
01...	.55	493	18	1.6	.06	1.70	.02	.92	.94	2.6	--
DEC											
03...	1.05	399	70	2.8	.10	2.90	.42	.78	1.20	4.1	--
APR											
15...	--	--	--	2.2	.08	2.30	.15	1.2	1.30	3.6	.67
JUN											
17...	--	--	--	.37	.04	.41	.10	.90	1.00	1.4	.29

K BASED ON NON-IDEAL COLONY COUNT.

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)
DEC 03...	--	--	--	--	--	0	0	--	--	--	--	--
APR 15...	820	10	0	<1	4	0	--	9	1	1800	<10	10
JUN 17...	2900	110	2	2	0	0	--	17	7	38000	40	42

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
DEC 03...	--	--	--	--	--	--	--	0	--	--	--
APR 15...	8	120	30	.1	.0	13	4	--	0	<0	70
JUN 17...	2	360	10	.1	.0	20	4	--	0	0	150

DATE	ZINC, DIS-SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRAC-TION (UG/L)
DEC 03...	--	--	--	--	--	--	--	--	--	--	--
APR 15...	20	7.5	1.5	11	2.2	<4.6	2.3	<4.7	2.3	.14	12
JUN 17...	<3	5.2	17	7.6	25	4.7	20	4.6	20	.10	4.6

DATE	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, DIS-SOLVED (UG/L)	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, DIS-SOLVED (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, DIS-SOLVED (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, DIS-SOLVED (UG/L)	DDD, TOTAL (UG/L)
APR 15...	.01	3	.0	.0	.00	.00	.00	.00	.00	.00	.00
JUN 17...	.00	7	.0	.0	.00	.00	.00	.00	.00	.00	.00

DATE	DDE, DIS-SOLVED (UG/L)	DDE, TOTAL (UG/L)	DDT, DIS-SOLVED (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, DIS-SOLVED (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN DIS-SOLVED (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, DIS-SOLVED (UG/L)	ENDRIN, TOTAL (UG/L)
APR 15...	.00	.00	.00	.00	.01	.01	.00	.00	.00	.00	.00
JUN 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, DIS-SOLVED (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE DIS-SOLVED (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE DIS-SOLVED (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, DIS-SOLVED (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)
APR 15...	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
JUN 17...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL PARA-THION, DIS-SOLVED (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, DIS-SOLVED (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	TOX-APHENE, DIS-SOLVED (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)
APR 15...	.00	.00	.00	.00	.00	.00	.00	0	0	.00
JUN 17...	.00	.00	.00	.00	.00	.01	.00	0	0	.00

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	996	---	---	1240	1170		---	---	---	446	670
2	669	1020	---	---	1240	1100		---	---	---	433	786
3	687	990	---	---	1240	1120		---	---	---	429	794
4	682	---	---	---	1200	1100		---	---	---	431	800
5	659	---	---	1220	1150	1100		---	---	---	427	877
6	656	---	---	1250	1170	1080		---	---	---	432	885
7	654	980	---	---	957	1080		---	601	---	---	900
8	596	965	---	---	961	1080		593	614	---	---	902
9	598	973	---	1230	997	1070		699	527	---	480	---
10	608	1000	---	1250	995	1060		592	483	---	480	846
11	599	993	---	1250	---	---		592	484	386	475	853
12	606	---	---	1230	1000	---		585	467	399	458	827
13	611	1000	1270	1220	1000	---		633	439	396	433	805
14	616	996	1260	1230	1000	---		---	410	395	429	821
15	641	980	1240	1240	1000	---		---	389	---	---	833
16	671	1010	---	1240	999	---		---	359	---	652	870
17	775	1010	---	1250	1010	---		---	338	---	560	925
18	805	1010	---	1260	1020	---		---	338	---	543	994
19	848	987	---	1260	1020	---		---	169	430	545	916
20	833	---	---	1260	1040	---		---	---	434	529	956
21	820	---	---	1270	1060	---		575	---	423	539	904
22	895	---	---	1270	1060	---		616	---	456	547	874
23	876	---	---	1270	1060	---		638	---	426	537	792
24	842	---	---	1320	1050	---		618	---	419	528	819
25	890	---	---	1350	1080	---		610	---	422	526	875
26	868	---	---	1340	1300	---		617	---	426	534	860
27	864	---	---	---	1280	899		630	---	429	571	832
28	920	---	---	---	1230	927		---	---	429	585	825
29	945	---	---	1250	1260	917		---	---	440	605	815
30	937	---	---	1190	---	920		---	---	432	648	864
31	986	---	---	1240	---	---		---	---	448	677	---

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCTOBER MAX	OCTOBER MIN	NOVEMBER MAX	NOVEMBER MIN	DECEMBER MAX	DECEMBER MIN	JANUARY MAX	JANUARY MIN	FEBRUARY MAX	FEBRUARY MIN	MARCH MAX	MARCH MIN
1	22.5	17.0	11.0	7.5	---	---	---	---	7.5	2.5	7.0	3.0
2	24.0	16.0	12.0	7.5	---	---	---	---	7.0	2.5	10.0	4.5
3	20.5	16.5	11.5	7.5	---	---	---	---	7.5	3.0	11.0	6.5
4	22.5	15.5	12.5	8.5	---	---	---	---	8.0	3.5	9.5	6.5
5	22.0	15.5	---	---	---	---	6.5	3.0	8.0	4.0	10.0	7.5
6	23.0	16.0	---	---	---	---	5.0	4.5	7.0	4.0	12.0	6.5
7	22.0	15.5	11.5	10.5	---	---	5.0	2.0	6.0	3.0	12.5	8.0
8	20.0	15.0	11.0	9.0	---	---	4.5	1.0	5.0	2.0	13.0	7.5
9	17.0	14.5	10.0	8.0	---	---	5.5	2.5	5.5	1.5	12.5	7.5
10	18.5	13.0	10.5	7.5	---	---	7.5	2.5	7.0	3.0	13.0	7.0
11	19.5	13.5	9.5	6.5	---	---	5.5	3.5	5.5	3.5	---	---
12	17.0	14.0	9.0	6.0	---	---	7.5	3.0	7.0	2.5	---	---
13	18.0	13.5	9.5	6.0	7.0	3.0	9.5	5.5	8.5	4.0	---	---
14	19.5	13.5	10.0	6.5	8.0	2.5	8.5	5.5	6.5	4.0	---	---
15	19.5	14.5	10.5	6.5	10.0	4.0	9.0	8.0	4.5	3.0	---	---
16	18.5	14.0	11.0	7.0	---	---	9.5	7.0	5.0	2.5	---	---
17	18.5	13.0	11.0	7.0	---	---	9.5	7.0	7.5	4.0	---	---
18	18.5	15.5	11.5	8.0	---	---	8.0	6.0	10.0	4.5	---	---
19	18.0	14.0	10.0	7.5	---	---	6.5	5.0	10.5	7.0	---	---
20	19.0	15.0	---	---	---	---	6.0	4.0	8.0	6.5	---	---
21	15.5	11.5	---	---	---	---	7.5	4.0	9.5	6.0	---	---
22	15.5	10.0	---	---	---	---	8.0	5.0	10.0	6.0	---	---
23	17.0	11.5	---	---	---	---	8.0	4.0	9.5	5.5	---	---
24	17.5	12.5	---	---	---	---	9.0	4.5	10.5	6.5	---	---
25	18.0	13.0	---	---	---	---	7.0	4.5	10.0	5.0	---	---
26	19.0	13.5	---	---	---	---	4.0	1.5	10.5	5.5	11.5	---
27	17.5	14.0	---	---	---	---	---	---	12.5	6.5	9.0	7.0
28	16.0	12.0	---	---	---	---	---	---	12.5	7.0	10.0	6.5
29	14.5	10.0	---	---	---	---	---	---	9.0	4.5	7.0	5.5
30	9.5	7.0	---	---	---	---	5.0	1.0	---	---	11.0	5.5
31	11.5	6.0	---	---	---	---	5.5	1.0	---	---	8.5	7.0

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1			---	---	---	---	---	---	24.5	16.0	24.5	16.5
2			---	---	---	---	---	---	23.0	17.5	26.5	17.0
3			---	---	---	---	---	---	27.0	17.5	27.5	16.5
4			---	---	---	---	---	---	24.5	19.0	24.5	16.5
5			---	---	---	---	---	---	28.5	17.5	26.5	17.5
6			---	---	17.5	---	---	---	31.5	18.0	25.5	18.5
7			12.5	---	18.5	15.0	---	---	---	19.0	27.5	18.5
8			11.0	9.5	16.0	15.0	---	---	---	---	27.5	19.0
9			14.0	9.5	18.0	15.5	---	---	27.0	20.0	19.5	15.0
10			14.0	11.5	18.5	15.0	22.5	---	28.0	20.5	18.0	14.5
11			12.5	11.0	18.5	15.0	25.5	18.0	27.0	20.5	23.5	16.0
12			18.0	10.5	19.0	15.5	25.5	18.0	28.0	21.0	23.5	16.5
13			17.5	9.5	19.5	15.0	---	---	24.0	19.0	22.0	17.0
14			---	8.5	20.0	15.0	---	---	23.5	18.0	24.0	17.0
15			---	---	20.0	16.0	---	---	23.0	16.5	25.0	17.0
16			---	---	19.0	16.5	---	---	25.5	17.5	22.0	17.0
17			---	---	20.0	16.0	---	---	24.5	17.0	23.5	14.0
18			---	---	20.5	16.0	---	---	27.0	17.0	25.0	15.0
19			---	---	---	21.0	25.0	19.5	27.5	18.0	24.5	16.0
20			15.5	---	---	---	25.5	18.5	24.5	13.0	22.5	16.5
21			16.5	13.0	---	---	24.5	18.0	23.5	17.0	23.5	15.0
22			17.5	13.5	---	---	25.0	18.5	25.5	17.5	19.0	14.0
23			18.0	14.5	---	---	24.5	17.5	25.5	18.0	20.5	13.0
24			17.0	14.0	---	---	24.5	17.5	26.0	18.0	20.0	14.0
25			17.0	12.5	---	---	23.5	17.0	25.5	19.0	16.5	14.0
26			17.5	13.0	---	---	23.0	16.5	22.5	18.0	20.0	13.5
27			18.0	14.0	---	---	23.5	16.5	24.5	18.5	21.0	14.0
28			---	14.0	---	---	24.0	15.5	25.0	17.5	21.5	13.5
29			---	---	---	---	24.5	15.5	25.5	18.0	21.5	14.0
30			---	---	---	---	23.5	16.5	24.0	17.5	22.5	13.0
31			---	---	---	---	23.0	15.0	24.5	18.5	---	---

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	7.9	---	---	8.0	8.1		---	---	---	7.8	8.1
2	8.0	7.8	---	---	8.1	8.0		---	---	---	7.8	7.9
3	7.9	7.9	---	---	8.2	7.9		---	---	---	7.8	7.8
4	7.9	---	---	---	8.2	7.8		---	---	---	8.1	8.0
5	8.0	---	---	8.2	8.1	7.9		---	---	---	7.9	8.0
6	8.0	---	---	8.1	8.1	7.9		---	---	---	7.9	8.0
7	8.0	8.0	---	8.3	8.0	7.9		---	8.0	---	---	8.0
8	7.9	8.1	---	8.3	8.1	7.9		7.9	8.0	---	---	8.0
9	7.9	8.1	---	8.2	8.1	8.0		7.7	8.0	---	7.9	7.9
10	7.9	8.1	---	8.2	8.0	8.0		8.0	7.9	---	8.0	8.0
11	8.0	8.2	---	8.1	7.9	---		8.0	7.9	7.8	8.0	7.9
12	8.0	8.2	---	8.1	8.0	---		7.8	7.9	7.8	8.0	8.0
13	8.0	8.2	8.2	8.0	8.0	---		7.5	7.9	7.8	7.9	8.1
14	8.0	8.1	8.1	8.0	8.0	---		---	7.9	7.8	7.9	8.1
15	8.0	8.1	8.1	7.9	8.1	---		---	7.9	7.8	7.7	8.1
16	8.0	8.1	8.0	7.9	8.2	---		---	7.9	---	7.8	8.2
17	7.9	8.1	8.0	7.9	8.1	---		---	8.0	---	7.8	8.1
18	7.8	8.1	7.9	7.9	8.0	---		---	7.9	---	7.8	8.1
19	7.8	8.1	7.9	8.0	8.0	---		---	---	8.1	7.8	8.1
20	7.9	---	---	8.0	8.0	---		---	---	8.1	7.9	8.2
21	7.7	---	---	8.1	8.0	---		7.9	---	8.2	8.0	8.1
22	7.8	---	---	8.0	7.9	---		7.8	---	8.1	8.0	8.0
23	7.9	---	---	8.0	7.8	---		7.9	---	8.2	8.0	7.9
24	7.9	---	---	7.9	7.9	---		7.9	---	8.0	8.1	7.9
25	7.9	---	---	7.9	7.9	---		8.0	---	8.1	8.0	7.9
26	7.9	---	---	8.0	7.9	---		8.0	---	8.0	8.0	8.0
27	7.9	---	---	8.0	7.9	7.9		8.0	---	8.0	8.0	7.9
28	7.9	---	---	8.1	7.9	7.9		---	---	7.9	8.0	7.9
29	7.9	---	---	8.0	7.9	8.0		---	---	7.9	8.1	7.9
30	7.9	---	---	8.1	---	8.0		---	---	7.8	8.1	7.9
31	8.0	---	---	8.1	---	---		---	---	7.7	8.0	---

07109500 ARKANSAS RIVER NEAR AVONDALE, CO--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1							---	---	10.4	8.0	11.1	8.6
2							---	---	10.5	8.3	10.6	6.8
3							---	---	10.5	8.8	9.4	6.3
4							---	---	10.3	8.2	10.0	6.5
5							10.6	7.8	9.5	8.2	10.7	7.5
6							---	---	9.3	8.0	10.3	6.9
7							10.8	8.8	10.0	8.2	10.2	6.4
8							10.9	8.5	10.5	9.5	10.6	6.0
9							10.6	8.4	10.9	9.4	10.9	6.3
10							10.1	7.3	10.5	9.0	11.0	6.1
11							10.2	7.7	10.7	9.2	---	---
12							10.1	7.9	11.0	9.0	---	---
13							8.8	7.4	10.0	8.1	---	---
14							8.8	7.3	10.1	8.3	---	---
15							7.9	6.8	10.5	9.5	---	---
16							8.0	7.0	11.1	9.4	---	---
17							8.1	6.8	10.5	8.3	---	---
18							8.3	7.0	9.8	7.0	---	---
19							9.3	7.8	9.4	6.8	---	---
20							9.8	8.4	8.8	7.1	---	---
21							9.8	8.3	9.1	6.9	---	---
22							9.7	7.9	9.0	6.7	---	---
23							9.9	7.9	9.4	7.0	---	---
24							9.4	7.1	9.8	6.9	---	---
25							9.5	7.4	10.5	7.0	---	---
26							11.0	8.6	9.6	6.5	9.4	6.2
27							10.2	9.9	9.3	5.7	9.6	6.8
28							11.2	9.7	9.5	5.5	9.1	7.1
29							11.0	9.1	9.8	6.0	10.3	7.9
30							11.0	9.0	---	---	10.0	6.9
31							11.0	8.8	---	---	---	---

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1									---	---	7.9	5.7
2									---	---	6.6	4.4
3									---	---	6.0	4.2
4									---	---	8.2	4.2
5									---	---	7.7	5.0
6									---	---	8.2	4.7
7									---	---	8.3	4.4
8									---	---	9.1	4.5
9									---	---	7.3	3.9
10									---	---	7.4	6.4
11									---	---	7.0	4.9
12									---	---	7.2	5.8
13									7.5	6.8	7.6	6.1
14									7.8	5.2	7.5	5.8
15									6.5	5.1	7.5	5.5
16									6.9	5.8	8.1	5.8
17									7.1	6.0	8.0	5.4
18									7.0	5.8	7.6	5.0
19									6.7	4.1	9.8	5.3
20									7.6	3.5	10.0	6.2
21									7.7	6.9	10.1	6.3
22									7.5	6.7	10.9	6.5
23									7.7	6.5	9.9	6.2
24									8.0	6.4	9.9	6.4
25									8.1	6.3	9.5	6.5
26									8.4	6.2	8.7	4.6
27									8.3	5.6	8.3	4.2
28									7.3	6.4	8.1	4.2
29									7.4	6.2	8.2	4.0
30									7.4	6.0	8.1	3.1
31									7.5	5.9	---	---

07111000 HUERFANO RIVER AT MANZANARES CRCSSING, NEAR REDWING, CO

LOCATION.--Lat 37°43'40", long 105°21'03", in sec.5, T.27 S., R.71 W., Huerfano County, Hydrologic Unit 11020006, on left bank at Manzanares Crossing, 500 ft (150 m) downstream from private bridge, 0.2 mi (0.3 km) downstream from Manzanares Creek, and 3.5 mi (5.6 km) southwest of Redwing.

DRAINAGE AREA.--73 mi^2 (189 km^2).

PERIOD OF RECORD.--July 1923 to May 1977, October 1977 to September 1978. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1945(M). WSP 1921: 1957.

GAGE.--Water-stage recorder. Altitude of gage is 8,270 ft (2,521 m), from topographic map. Apr. 26, 1946, to Sept. 30, 1972, at datum 1.00 ft (0.305 m) higher. See WSP 1711 or 1731 for history of changes prior to Apr. 26, 1946.

REMARKS.--Records good. Diversions above station for irrigation of about 1,800 acres (7.28 km^2).

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--56 years (water years 1924-76, 1978-80), 31.3 ft^3/s (0.886 m^3/s), 22,680 acre-ft/yr (28.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft^3/s (289 m^3/s) Aug. 2, 1951, gage height, 8.14 ft (2.481 m), from rating curve extended above 270 ft^3/s (7.6 m^3/s), on basis of slope-area measurement of peak flow; minimum daily, 3.5 ft^3/s (0.099 m^3/s) Mar. 30, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 216 ft^3/s (6.12 m^3/s) at 0200 June 11, gage height, 3.24 ft (0.988 m); minimum daily, 7.0 ft^3/s (0.20 m^3/s) Dec. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	13	11	9.5	9.5	9.8	10	56	158	102	35	18
2	12	13	10	9.2	9.8	9.8	12	59	162	98	36	18
3	12	13	10	9.2	9.5	11	11	63	153	95	35	17
4	12	13	9.2	9.5	9.5	10	11	68	164	86	32	18
5	12	13	9.2	9.5	9.2	9.2	12	74	175	82	32	18
6	12	12	9.2	9.5	9.8	10	12	81	182	77	33	18
7	12	13	9.2	9.5	9.8	10	11	90	158	74	30	20
8	12	13	8.6	9.8	9.5	10	11	87	164	74	33	22
9	12	13	8.9	9.8	9.0	9.2	12	92	171	71	36	27
10	12	13	8.6	9.8	9.5	8.3	13	97	177	66	33	45
11	12	12	8.0	11	10	10	13	104	192	68	32	53
12	12	12	8.0	10	10	9.2	13	102	188	65	30	39
13	12	11	7.0	10	11	8.0	13	101	180	63	30	32
14	12	12	8.0	10	11	9.5	14	99	175	64	32	28
15	12	12	8.3	10	11	10	17	101	171	58	31	26
16	12	12	8.0	10	10	9.5	20	99	164	54	28	24
17	12	12	7.8	10	10	8.0	22	99	160	51	26	22
18	12	13	8.6	10	10	10	26	90	164	51	24	22
19	12	12	8.0	10	11	10	30	97	164	51	24	20
20	12	13	8.3	10	10	10	34	111	150	49	24	19
21	14	13	8.0	10	9.8	10	38	120	138	49	22	18
22	13	13	8.0	10	9.8	10	42	144	133	51	22	18
23	13	13	7.8	10	9.8	11	42	171	125	50	21	18
24	14	13	8.0	10	10	11	32	186	125	52	22	18
25	14	14	8.3	9.8	10	10	37	171	123	51	24	18
26	13	14	8.3	10	11	11	40	162	117	45	24	18
27	13	12	9.8	9.0	10	10	42	160	116	42	22	17
28	13	10	9.2	9.5	11	10	48	153	111	42	22	18
29	13	12	8.6	9.5	10	10	53	158	102	36	20	17
30	12	11	10	9.5	---	11	57	160	101	36	18	17
31	12	---	9.8	9.0	---	9.5	---	157	---	36	18	---
TOTAL	385	375	269.7	302.6	290.5	305.0	748	3512	4563	1889	851	683
MEAN	12.4	12.5	8.70	9.76	10.0	9.84	24.9	113	152	60.9	27.5	22.8
MAX	14	14	11	11	11	11	57	186	192	102	36	53
MIN	12	10	7.0	9.0	9.0	8.0	10	56	101	36	18	17
AC-FT	764	744	535	600	576	605	1480	6970	9050	3750	1690	1350

CAL YR 1979 TOTAL 12956.0 MEAN 35.5 MAX 173 MIN 5.4 AC-FT 25700
WTR YR 1980 TOTAL 14173.8 MEAN 38.7 MAX 192 MIN 7.0 AC-FT 28110

07114000 CUCHARAS RIVER AT BOYD RANCH, NEAR LA VETA, CO

LOCATION.--Lat 37°25'12", long 105°03'08", in SE¼NE¼SE¼ sec.24, T.30 S., R.69 W., Huerfano County, Hydrologic Unit 11020006, on left bank at Boyd Ranch, 29 ft (9 m) downstream from private bridge, 1.4 mi (2.3 km) downstream from Chaparral Creek, and 6.5 mi (10.5 km) southwest of La Veta.

DRAINAGE AREA.--56 mi² (145 km²).

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.--WSP 827: 1936. WSP 1007: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 7,781 ft (2,371.6 m), from topographic map.

REMARKS.--Records good except those for winter period and period of no gage-height record, which are poor. Diversions for irrigation of about 500 acres (2.02 km²) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--46 years, 22.5 ft³/s (0.637 m³/s), 16,300 acre-ft/yr (20.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 444 ft³/s (12.6 m³/s) May 23, 1955, gage height, 4.05 ft (1.234 m); minimum daily, 2 ft³/s (0.057 m³/s) for several days November 1934 to January 1935, Sept. 29, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 246 ft³/s (6.97 m³/s) at 1200 May 24, gage height, 2.81 ft (0.856 m), only peak above base of 150 ft³/s (4.2 m³/s); minimum daily, 6.0 ft³/s (0.17 m³/s) Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.0	8.0	8.5	8.0	8.5	7.5	42	192	83	18	11
2	11	8.0	9.0	8.0	8.0	8.0	8.0	44	185	76	18	10
3	11	9.0	10	7.5	8.5	8.8	8.0	52	179	70	17	10
4	11	10	10	8.0	8.5	9.2	8.5	66	183	63	17	10
5	10	10	10	8.5	8.0	8.8	9.5	100	190	60	17	10
6	10	10	8.5	9.0	8.0	8.8	10	164	190	59	18	11
7	9.6	11	8.5	8.0	7.5	8.2	11	194	175	57	17	10
8	9.6	11	9.0	8.5	7.0	9.2	9.2	192	185	54	16	12
9	10	11	9.5	9.0	6.0	8.8	11	164	196	51	18	25
10	10	10	9.5	9.0	6.5	10	11	166	212	51	16	18
11	9.6	10	9.5	8.5	6.5	8.8	11	166	210	49	16	15
12	10	9.5	9.0	9.0	7.0	7.4	9.2	156	210	45	16	13
13	10	9.5	8.5	9.5	7.5	8.8	10	112	196	41	16	13
14	10	9.0	8.5	9.5	7.5	10	13	94	185	38	20	12
15	10	9.5	9.0	9.0	7.0	8.8	13	100	170	36	18	12
16	10	10	9.0	8.0	7.0	8.5	16	101	160	34	17	11
17	10	10	9.0	8.0	7.0	7.5	18	103	150	32	16	11
18	10	10	9.0	8.0	7.5	9.0	21	114	148	30	16	11
19	9.6	9.5	9.0	7.5	7.4	10	23	112	142	28	15	10
20	9.6	8.5	9.5	7.0	7.4	8.5	25	136	134	28	14	10
21	11	7.5	9.5	7.0	7.4	8.2	25	166	129	27	14	9.6
22	11	6.5	9.5	7.0	7.8	8.8	28	170	121	27	14	10
23	11	6.5	9.0	7.0	7.4	7.8	29	196	117	26	13	11
24	11	6.5	9.0	7.5	7.5	7.5	20	232	116	25	14	10
25	11	9.0	9.0	7.5	8.0	8.8	15	216	114	25	15	10
26	11	9.5	9.0	7.5	8.0	9.0	24	190	112	24	13	10
27	10	8.0	8.5	7.0	8.8	8.5	25	181	108	22	13	10
28	10	6.5	7.5	7.5	9.2	7.5	28	188	103	21	12	9.6
29	9.6	6.5	7.0	7.5	9.2	8.0	37	190	93	20	12	9.2
30	7.8	7.0	7.5	8.0	---	8.0	49	194	86	19	12	8.8
31	7.0	---	8.0	7.5	---	8.0	---	194	---	19	11	---
TOTAL	312.4	266.0	275.5	249.0	221.1	265.7	532.9	4495	4691	1240	479	343.2
MEAN	10.1	8.87	8.89	8.03	7.62	8.57	17.8	145	156	40.0	15.5	11.4
MAX	11	11	10	9.5	9.2	10	49	232	212	83	20	25
MIN	7.0	6.5	7.0	7.0	6.0	7.4	7.5	42	86	19	11	8.8
AC-FT	620	528	546	494	439	527	1060	8920	9300	2460	950	681

CAL YR 1979 TOTAL 8524.1 MEAN 23.4 MAX 146 MIN 4.5 AC-FT 16910
WTR YR 1980 TOTAL 13370.8 MEAN 36.5 MAX 232 MIN 6.0 AC-FT 26520

NOTE.--NO GAGE-HEIGHT RECORD NOV. 27 TO FEB. 19.

07116500 HUERFANO RIVER NEAR BOONE, CO

(Formerly published as Huerfano River near Nepesta)

LOCATION.--Lat 38°13'30", long 104°15'37", in NE¼NE¼ sec.18, T.21 S., R.61 W., Pueblo County, Hydrologic Unit 11020006, at right upstream end of bridge on U.S. Highway 50, 0.8 mi (1.3 km) upstream from mouth, and 1.6 mi (2.6 km) south of Boone.

DRAINAGE AREA.--1,875 mi² (4,856 km²).

PERIOD OF RECORD.--January 1922 to September 1925 (monthly and annual discharge only, published in WSP 1311 as near Nepesta), October 1979 to September 1980.

GAGE.--Water-stage recorder. Datum of gage is 4,443.75 ft (1,354.455 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those above 800 ft³/s (22.7 m³/s), which are fair, and those Dec. 3 to Mar. 1, which are poor. Natural flow of stream affected by diversions for irrigation of about 48,000 acres (194 km²), and return flow from irrigated areas. Several observations of water temperature and specific conductance were obtained and are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft³/s (549 m³/s) Aug. 1, 1923, gage height, 9.4 ft (2.865 m) datum then in use, from rating curve extended above 1,200 ft³/s (34.0 m³/s) on the basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,810 ft³/s (51.3 m³/s) at 1245 May 16, gage height, 7.25 ft (2.210 m), from rating curve extended above 750 ft³/s (21.2 m³/s); maximum gage height, 7.84 ft (2.390 m) at 0845 Aug. 15; no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	18	22	1.5	32	.50	26	200	253	2.2	.00	.00
2	.00	7.9	3.5	3.0	27	.60	48	149	238	1.8	.00	.00
3	.00	.00	1.0	4.0	71	.68	46	98	211	.00	.00	.00
4	.00	1.3	.70	5.0	57	.48	47	68	215	.00	.00	.00
5	.00	1.5	.60	3.0	37	.81	50	69	216	.00	.00	.00
6	.00	2.9	.60	2.0	15	.70	47	63	211	.00	.00	.00
7	.00	4.8	.60	1.0	7.0	.44	40	100	201	.00	.00	.00
8	.00	3.3	.60	.90	2.0	.48	36	202	174	.00	.00	.00
9	.00	3.9	.60	.90	2.0	.53	33	266	177	.00	.00	.00
10	.00	2.3	.60	1.5	2.0	.46	21	238	200	.00	.00	.00
11	.00	1.6	.60	3.0	3.0	.46	21	224	196	.00	.00	.00
12	.00	3.8	.60	4.0	3.0	.45	19	215	192	.00	.00	.00
13	.00	14	.60	6.0	2.0	.41	15	210	172	.00	.00	.00
14	.00	5.9	.50	7.0	1.5	.45	26	176	171	.00	.00	.00
15	.00	7.6	.50	7.0	1.0	.42	27	214	143	.00	135	.00
16	.00	7.5	.50	4.0	.90	.55	21	485	113	.00	24	.00
17	.00	9.2	.50	3.0	1.0	.73	18	142	109	.00	28	.00
18	.00	9.2	.50	2.0	1.2	6.8	19	180	93	.00	3.0	.00
19	.00	8.9	.50	2.0	1.1	27	18	171	76	.00	.00	.00
20	.00	16	.50	3.0	1.0	36	12	180	54	.00	.00	.00
21	.00	19	.60	5.0	1.0	29	8.9	203	62	.00	.00	.00
22	.00	23	.80	10	1.0	28	6.6	203	62	.00	.00	.00
23	.00	28	1.2	20	1.0	24	6.6	245	54	.00	.00	.00
24	.00	34	1.3	20	1.0	31	20	338	37	.00	.00	.00
25	.00	34	1.2	16	1.1	31	140	470	29	.00	.00	.00
26	.00	37	1.1	3.9	1.5	29	76	420	16	.00	.00	.00
27	.00	41	.90	2.0	.85	19	40	326	9.9	.00	.00	.00
28	.00	39	.80	1.0	.60	22	31	244	6.4	.00	.00	.00
29	.00	38	.70	.90	.44	22	23	230	5.9	.00	.00	.00
30	1.8	27	.80	.80	---	18	10	241	7.1	.00	.00	.00
31	19	---	1.0	.70	---	18	---	250	---	.00	.00	---
TOTAL	20.80	449.60	46.50	144.10	276.19	349.95	952.1	6820	3704.3	4.00	190.00	.00
MEAN	.67	15.0	1.50	4.65	9.52	11.3	31.7	220	123	.13	6.13	.000
MAX	19	41	22	20	71	36	140	485	253	2.2	135	.00
MIN	.00	.00	.50	.70	.44	.41	6.6	63	5.9	.00	.00	.00
AC-FT	41	892	92	286	548	694	1890	13530	7350	7.9	377	.00

WTR YR 1980 TOTAL 12957.54 MEAN 35.4 MAX 485 MIN .00 AC-FT 25700

NOTE.--NO GAGE-HEIGHT RECORD DEC. 3 TO JAN. 22.

07117000 ARKANSAS RIVER NEAR NEPESTA, CO

LOCATION.--Lat 38°11'03", long 104°10'22", in SW¼SE¼ sec.25, T.21 S., R.61 W., Pueblo County, Hydrologic Unit 11020005, on right bank 0.7 mi (1.1 km) upstream from headgate of Oxford Farmers Co. canal, 1.9 mi (3.1 km) northwest of Nepesta, 2.7 mi (4.3 km) upstream from Kramer Creek, and 6.6 mi (10.6 km) downstream from Huerfano River.

DRAINAGE AREA.--9,345 mi^2 (24,204 km^2), of which 54 mi^2 (140 km^2) is probably noncontributing.

PERIOD OF RECORD.--April to October 1903, April to November 1912, October 1913 to current year. Monthly discharge only for some periods, published in WSP 1311. Records originally published for October 1933 to June 1936 did not include diversion to Oxford Farmers Co. canal, but monthly figures only for this period have been adjusted for diversion and published in WSP 1311.

Records for river below Oxford Farmers Co. canal (diversion to canal not included), published as "at Nepesta" September 1897 to October 1903 (irrigation seasons only), April to October 1904, June 1906 to September 1908 (irrigation seasons only), September 1909 to December 1910, February to September 1911 (gage heights and discharge measurements only), October 1911 to November 1912, March to August 1913 (discharge measurements only), October 1913 to September 1936. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: Drainage area. WDR CO-79-1: 1965.

GAGE.--Water-stage recorder. Altitude of gage is 4,385 ft (1,337 m), from topographic map. Prior to June 5, 1921, nonrecording gages or water-stage recorders at various sites within 4.5 mi (7.2 km) upstream and 3.0 mi (4.8 km) downstream at different datums. June 5, 1921, to Apr. 4, 1966, water-stage recorders at sites on river or river and canal within 0.7 mi (1.1 km) downstream at various datums.

REMARKS.--Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 230,000 acres (931 km^2), and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--60 years (water years 1914-73), 684 ft^3/s (19.37 m^3/s), 495,600 acre-ft/yr (611 hm^3/yr), prior to completion of Pueblo Dam; 7 years (water years 1974-80), 582 ft^3/s (16.48 m^3/s), 421,700 acre-ft/yr (520 hm^3/yr), subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft^3/s (5,100 m^3/s) June 4, 1921, gage height not determined, by slope-area measurement of peak flow at a point 8 mi (13 km) upstream; no flow at times in 1902, 1910, 1931, and 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,740 ft^3/s (276 m^3/s) at 1100 Aug. 15, gage height, 7.75 ft (2.362 m); minimum daily, 168 ft^3/s (4.76 m^3/s) Feb. 8.

07117000 ARKANSAS RIVER NEAR NEPESTA, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	294	311	430	270	320	317	545	4440	2010	2230	664	353
2	300	329	283	310	330	341	655	4570	1460	1700	664	430
3	256	353	261	278	329	372	391	4500	1460	1240	740	391
4	245	359	240	266	372	353	444	2350	1320	3930	803	359
5	250	335	240	288	359	347	417	2710	1530	3620	698	317
6	272	335	260	294	311	347	404	2540	1760	1430	672	266
7	266	353	278	278	225	347	398	2960	2620	1080	749	245
8	384	365	266	300	168	347	472	5220	2710	1300	749	225
9	493	372	245	272	191	347	545	5040	3520	1210	812	473
10	538	365	245	300	196	335	500	6440	4010	1270	956	583
11	552	424	250	320	210	323	479	5800	5330	1260	776	647
12	522	444	245	325	215	410	424	5140	5680	1250	740	680
13	545	458	240	370	220	591	458	3110	5600	1290	1130	689
14	552	500	220	400	225	631	458	2490	5330	1310	1350	672
15	545	508	225	410	205	623	424	2780	5180	1310	6480	623
16	515	515	230	430	200	631	458	4570	5040	1350	1950	591
17	335	522	230	410	200	714	515	4380	5000	1290	1620	500
18	250	486	235	311	215	599	522	4830	4970	887	1350	417
19	225	391	240	317	240	538	465	4190	4970	655	1180	404
20	230	493	235	300	283	479	305	5720	4800	522	1080	530
21	278	458	240	266	288	522	288	5600	5880	639	956	493
22	353	472	266	288	278	500	372	4330	5450	631	868	451
23	378	479	266	288	317	458	709	2290	4760	868	887	508
24	458	458	266	278	365	647	1490	3040	3770	916	887	500
25	378	424	283	261	359	740	3270	3540	3220	849	906	479
26	353	607	265	272	341	515	3740	3570	3060	749	956	465
27	359	552	270	250	311	437	2170	2990	3740	714	998	508
28	317	522	300	250	323	458	1650	2250	2940	706	1340	530
29	300	599	300	260	323	458	1660	1300	2800	672	925	530
30	278	515	190	270	---	451	1780	1780	2710	639	552	458
31	288	---	210	270	---	451	---	2190	---	689	335	---
TOTAL	11309	13304	7954	9402	7919	14629	26408	116660	112630	38206	34773	14317
MEAN	365	443	257	303	273	472	880	3763	3754	1232	1122	477
MAX	552	607	430	430	372	740	3740	6440	5880	3930	6480	689
MIN	225	311	190	250	168	317	288	1300	1320	522	335	225
AC-FT	22430	26390	15780	18650	15710	29020	52380	231400	223400	75780	68970	28400

CAL YR 1979 TOTAL 254269 MEAN 697 MAX 4860 MIN 76 AC-FT 504300
WTR YR 1980 TOTAL 407511 MEAN 1113 MAX 6480 MIN 168 AC-FT 808300

07118500 APISHIPA RIVER AT AGUILAR, CO

LOCATION.--Lat 37°24'00", long 104°38'29", in SE¼SW¼ sec.26, T.30 S., R.65 W., Las Animas County, Hydrologic unit 11020007, on right bank 10 ft (3.0 m) downstream from county bridge on Aguilar Road, 0.8 mi (1.3 km) southeast of Aguilar, and 0.7 mi (1.1 km) upstream from Gonzales Canyon.

DRAINAGE AREA.--147 mi² (381 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1938 to September 1939, June 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,340 ft (1,932 m), from topographic map. Mar. 3, 1938 to Sept. 30, 1939, nonrecording gage at site 1.3 mi (2.1 km) upstream at different datum.

REMARKS.--Records good except those for October through April, which are fair. Several diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft³/s (147 m³/s) Aug. 10, 1938, gage height, 14.32 ft (4.365 m) from floodmarks, from rating curve extended above 25 ft³/s (0.71 m³/s) on basis of slope-area measurements at gage heights, 12.96 ft (3.950 m) and 14.32 ft (4.365 m); no flow many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Aug. 1930 reached a stage of 20.73 ft (6.319 m), at site and datum in use in 1939, from information by local residents. Discharge not determined. For discussion of this flood, see WSP 997.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 222 ft³/s (6.28 m³/s) at 2300 Apr. 30, gage height, 5.91 ft (1.804 m); minimum daily, 0.11 ft³/s (0.003 m³/s) Oct. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	.12	1.2	1.5	.78	2.4	.94	165	59	2.0	1.6	1.0
2	.21	.15	1.6	1.7	1.1	2.6	1.8	149	58	1.9	1.6	1.0
3	.24	.19	2.0	.72	.84	2.8	1.8	138	55	1.8	1.4	.89
4	.20	.25	2.1	.35	.72	2.8	1.9	132	55	3.2	1.3	.90
5	.23	.27	2.0	.40	.50	2.2	1.9	142	54	4.0	1.5	.90
6	.26	.25	1.4	.78	.40	2.0	1.9	150	54	3.6	1.4	.81
7	.29	.23	.55	.92	.45	1.9	2.0	161	50	4.3	1.2	.89
8	.29	.19	.50	1.2	.31	1.8	1.9	132	48	3.8	1.2	1.0
9	.30	.17	.45	1.0	.72	1.8	1.7	123	54	3.2	1.2	1.8
10	.34	.14	.60	1.6	.92	1.7	1.8	128	55	2.0	1.3	.83
11	.37	.23	1.1	1.3	1.2	1.7	2.0	122	54	1.7	1.3	.93
12	.33	1.2	1.7	1.1	1.2	1.4	2.0	116	45	1.6	1.4	.95
13	.23	1.6	1.0	1.6	1.8	1.1	2.0	108	39	1.5	1.4	.73
14	.18	1.6	.69	1.1	1.5	.58	2.0	99	33	1.5	3.1	.79
15	.16	1.6	.76	.29	1.3	.45	2.2	123	26	1.5	1.6	.92
16	.13	1.6	.73	.19	.97	.54	1.8	139	21	1.6	1.2	.86
17	.13	1.7	1.4	.60	1.7	.78	.93	122	25	1.6	1.1	.70
18	.13	1.9	1.1	1.2	1.8	.66	1.8	111	23	1.6	1.1	.79
19	.14	1.9	.74	1.1	1.1	.40	.80	97	18	1.6	1.1	.83
20	.13	1.6	.77	1.2	1.5	.37	.14	90	15	1.6	1.2	.78
21	.15	1.4	.80	1.2	1.5	.37	.74	97	11	1.4	1.3	.72
22	.11	1.2	.79	1.2	1.4	.20	1.1	102	10	14	1.3	.65
23	.12	1.2	.78	.92	1.3	.73	1.5	103	8.8	1.4	1.2	.57
24	.12	1.2	.71	1.1	1.4	1.7	33	96	3.7	1.3	1.2	.53
25	.13	1.7	.78	1.5	2.0	1.4	100	88	1.8	1.1	1.2	.52
26	.15	1.6	1.2	1.0	1.7	.70	20	79	1.7	1.1	1.2	.53
27	.26	1.2	2.0	1.1	2.0	.74	29	71	1.6	1.2	1.2	.55
28	.30	.72	1.7	.84	2.3	.65	44	69	1.7	1.2	.92	.57
29	.34	.55	1.2	1.0	2.2	.57	54	67	1.8	1.3	.85	.60
30	.34	.66	1.2	1.0	---	.67	98	64	1.9	1.4	.90	.61
31	.31	---	1.2	2.0	---	.48	---	61	---	1.5	.96	---
TOTAL	6.81	28.32	34.75	32.71	36.61	38.19	414.65	3444	885.0	72.5	40.43	24.15
MEAN	.22	.94	1.12	1.06	1.26	1.23	13.8	111	29.5	2.34	1.30	.81
MAX	.37	1.9	2.1	2.0	2.3	2.8	100	165	59	14	3.1	1.8
MIN	.11	.12	.45	.19	.31	.20	.14	61	1.6	1.1	.85	.52
AC-FT	14	56	69	65	73	76	822	6830	1760	144	80	48

CAL YR 1979 TOTAL 1262.53 MEAN 3.46 MAX 157 MIN .00 AC-FT 2500
WTR YR 1980 TOTAL 5058.12 MEAN 13.8 MAX 165 MIN .11 AC-FT 10030

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1938 to September 1939, June 1978 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 16,400 mg/L Aug. 14, 1979; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 43,800 tons (39,700 t) July 31, 1979; minimum daily, no flow many days during the year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
JAN 15...	1500	.24	790	8.0	7.5	9.4	280	0	76	21	68
APR 30...	1615	69	315	8.2	9.5	9.6	110	13	31	8.2	16
MAY 01...	1200	151	270	8.1	5.5	--	--	--	--	--	--
07...	1640	147	255	--	10.0	--	--	--	--	--	--
JUL 22...	0535	77	775	--	15.0	--	--	--	--	--	--
22...	0550	74	430	--	13.0	--	--	--	--	--	--
22...	0915	21	340	--	14.0	--	--	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
JAN 15...	1.8	2.2	300	120	5.7	.3	12	488	.66	.32	.46
APR 30...	.7	2.2	98	37	2.9	.3	11	170	.23	31.7	.45
MAY 01...	--	--	89	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--
JUL 22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--

DATE	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
JAN 15...	.00	150	0	--	--	20	--	--	--	--
APR 30...	.10	9300	50	2	1	30	1	0	--	--
MAY 01...	--	15000	--	4	--	--	1	--	--	--
07...	--	7100	--	2	--	--	0	--	0	16
JUL 22...	--	70000	--	16	--	--	3	--	53	93
22...	--	76000	--	21	--	--	3	--	8	67
22...	--	35000	--	8	--	--	1	--	32	51

07118500 APISHAPA RIVER AT AGUILAR, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
JAN										
15...	--	--	130	<10	4	1	20	20	--	--
APR										
30...	36	3	48000	130	26	2	1300	30	.3	.1
MAY										
01...	190	--	94000	--	50	--	2700	--	.4	--
07...	27	--	32000	--	16	--	960	--	.1	--
JUL										
22...	360	--	400000	--	240	--	16000	--	.5	--
22...	320	--	380000	--	230	--	14000	--	.7	--
22...	140	--	140000	--	160	--	3900	--	.3	--

DATE	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
JAN										
15...	--	--	--	--	--	--	10	<3	--	--
APR										
30...	1	2	32	1	2	1	160	20	31	8.2
MAY										
01...	1	--	68	--	4	--	320	--	80	--
07...	0	--	23	--	2	--	310	--	--	--
JUL										
22...	1	--	250	--	5	--	1500	--	--	--
22...	1	--	210	--	4	--	1400	--	--	--
22...	0	--	76	--	3	--	550	--	--	--

07119500 APISHAPA RIVER NEAR FOWLER, CO

LOCATION.--Lat 38°05'28", long 103°58'52", in SE¼NW¼ sec.35, T.22 S., R.59 W., Otero County, Hydrologic Unit 11020007, near right bank on downstream side of county highway bridge, 3.5 mi (5.6 km) southeast of Fowler, and 5.4 mi (8.7 km) upstream from mouth.

DRAINAGE AREA.--1,125 mi² (2,914 km²).

PERIOD OF RECORD.--April 1922 to September 1925, May 1939 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 957: 1939, 1941. WSP 1117: Drainage area. WSP 1241: 1923(M). WRD Colo. 1974: 1973(M).

GAGE.--Water-stage recorder. Datum of gage is 4,317.05 ft (1,315.837 m) above mean sea level. Prior to Aug. 29, 1923, at site 3 mi (5 km) downstream at different datum. Aug. 29, 1923, to Sept. 30, 1925, at present site at different datum.

REMARKS.--Records good. Waste water from Oxford Farmers Co. and Rocky Ford Highline canals enters river above station. Diversions above station for irrigation of about 4,700 acres (19.0 km²). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--44 years, 30.1 ft³/s (0.852 m³/s), 21,810 acre-ft/yr (26.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,000 ft³/s (2,350 m³/s) Aug. 22, 1923, by slope-area measurement 2 mi (3 km) upstream from present station, caused by failure of Apishapa Dam 31 mi (50 km) upstream; no flow Feb. 5, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 524 ft³/s (14.8 m³/s) at 2200 May 16, gage height, 3.46 ft (1.055 m), no peak above base of 3,000 ft³/s (85 m³/s); minimum daily, 2.4 ft³/s (0.068 m³/s) Feb. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	9.8	13	4.2	2.7	2.5	86	70	110	20	9.8	5.9
2	4.1	11	5.6	4.6	2.8	2.5	32	84	110	37	9.8	5.8
3	5.5	5.0	4.3	4.2	2.9	2.5	8.0	195	95	18	12	7.9
4	5.1	9.3	3.6	3.8	2.9	2.6	18	106	80	11	9.8	11
5	6.2	7.5	3.2	3.7	3.0	2.7	30	71	75	14	9.3	11
6	6.8	8.4	3.6	3.5	3.0	3.0	37	161	72	15	9.3	11
7	5.3	11	3.7	3.6	3.2	3.0	23	187	68	15	8.1	11
8	4.5	10	3.8	3.1	3.0	3.1	52	233	64	17	7.3	10
9	6.1	8.3	4.1	3.1	2.8	3.1	33	310	61	20	11	18
10	5.1	12	4.1	3.2	3.0	3.0	35	267	53	17	12	21
11	5.5	13	4.1	3.2	3.0	3.0	25	206	70	19	12	15
12	4.9	13	4.3	3.2	3.1	3.0	16	216	46	17	12	12
13	7.4	15	4.3	3.3	3.1	2.8	19	195	47	14	11	13
14	7.9	17	3.7	3.1	3.2	2.8	13	140	31	18	9.8	18
15	7.6	16	3.6	3.6	3.2	2.8	5.7	152	17	15	24	12
16	5.1	16	3.7	3.3	3.2	3.3	5.7	219	15	12	24	13
17	5.3	16	4.0	2.9	3.2	24	5.2	339	31	12	18	12
18	5.2	16	4.1	2.7	2.8	15	7.2	238	42	11	13	5.7
19	5.2	24	4.2	3.0	2.6	5.9	11	220	19	11	12	5.4
20	5.4	30	4.2	3.2	2.6	5.6	13	238	33	47	8.6	4.7
21	13	22	4.2	3.2	2.6	4.4	9.8	199	64	80	7.5	3.5
22	14	34	4.6	3.2	2.4	4.5	8.2	207	26	26	8.6	4.0
23	9.4	23	4.4	3.1	2.6	5.2	5.8	201	56	25	7.6	6.1
24	5.3	16	4.4	3.4	2.6	9.6	17	139	44	23	4.6	4.8
25	6.4	14	4.7	3.5	2.6	4.7	47	155	20	18	4.8	4.2
26	7.7	15	4.8	3.5	2.6	8.7	13	140	20	15	6.0	4.5
27	7.5	16	5.2	3.5	2.6	13	6.2	150	14	14	7.4	4.6
28	6.4	20	5.1	3.6	2.8	21	74	166	14	14	7.0	6.9
29	11	25	4.8	3.4	2.7	18	32	133	6.9	12	6.9	6.4
30	9.4	39	4.8	3.2	---	14	74	120	18	9.8	6.6	5.3
31	11	---	4.5	2.9	---	17	---	100	---	10	5.2	---
TOTAL	213.2	492.3	140.7	105.0	82.8	216.3	761.8	5557	1421.9	606.8	315.0	273.7
MEAN	6.88	16.4	4.54	3.39	2.86	6.98	25.4	179	47.4	19.6	10.2	9.12
MAX	14	39	13	4.6	3.2	24	86	339	110	80	24	21
MIN	3.9	5.0	3.2	2.7	2.4	2.5	5.2	70	6.9	9.8	4.6	3.5
AC-FT	423	976	279	208	164	429	1510	11020	2820	1200	625	543

CAL YR 1979 TOTAL 5997.5 MEAN 16.4 MAX 546 MIN 1.7 AC-FT 11900
WTR YR 1980 TOTAL 10186.5 MEAN 27.8 MAX 339 MIN 2.4 AC-FT 20200

07119700 ARKANSAS RIVER AT CATLIN DAM, NEAR FOWLER, CO

LOCATION.--Lat 38°07'33", long 103°54'41", in NW¼NW¼ sec.21, T.22 S., R.58 W., Otero County, Hydrologic Unit 11020005, 600 ft (180 m) downstream from gage on Catlin Canal, on right bank 2.2 mi (3.5 km) downstream from diversion dam for Catlin Canal, 2.3 mi (3.7 km) downstream from Apishapa River, and 6.0 mi (9.7 km) east of Fowler.

DRAINAGE AREA.--10,901 mi² (28,234 km²), of which 54 mi² (140 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorders on river and on Catlin Canal. Datum of river gage is 4,245.92 ft (1,294.156 m) National Geodetic Vertical Datum of 1929. Datum of canal gage is 4,257.87 ft (1,297.799 m) NGVD. Prior to May 13, 1971, river gage at site 2.2 mi (3.5 km) upstream at datum 24.08 ft (7.340 m) higher and canal gage at site 1.7 mi (2.7 km) upstream at datum 3.26 ft (0.994 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Discharge computed by combining discharge of river below canal with that of Catlin Canal. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--9 years (water years 1965-73), 636 ft³/s (18.01 m³/s), 460,800 acre-ft/yr (568 hm³/yr), prior to completion of Pueblo Dam; 7 years (water years 1974-80), 576 ft³/s (16.31 m³/s), 417,300 acre-ft/yr (515 hm³/yr), subsequent to completion of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,200 ft³/s (1,220 m³/s) June 18, 1965, gage height, 7.95 ft (2.423 m), site and datum then in use, from rating curve extended above 13,000 ft³/s (370 m³/s), on basis of flow-over-dam computation of peak flow; minimum daily, 30 ft³/s (0.85 m³/s) Sept. 12, 1974, Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,940 ft³/s (197 m³/s) at 1000 May 9, gage height, 7.47 ft (2.277 m); minimum daily, 208 ft³/s (5.89 m³/s) Dec. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	304	312	544	320	300	361	557	3750	2210	2580	595	406
2	318	332	394	378	378	366	696	4920	1760	2080	585	380
3	304	336	325	350	383	400	524	4150	1710	1800	615	383
4	270	357	272	345	447	394	565	2940	1500	2760	690	356
5	282	349	268	345	423	378	524	2920	1610	3960	717	343
6	292	332	292	345	405	383	498	3130	1790	2060	619	310
7	305	381	305	280	366	400	459	2930	2390	1360	682	285
8	310	403	305	264	264	400	423	4220	2630	1300	741	261
9	467	398	305	325	272	388	504	5460	3300	1380	723	312
10	545	398	296	350	280	350	517	5240	3820	1310	911	553
11	576	414	288	372	280	340	557	4720	4560	1310	791	610
12	521	445	284	378	280	361	511	4430	4910	1190	763	666
13	558	460	280	435	272	510	463	3260	5020	1140	848	698
14	597	483	276	472	276	616	426	2500	4970	1190	1340	730
15	576	489	264	498	272	616	401	2750	4920	1130	3620	672
16	580	503	260	517	260	587	363	4160	4680	1210	2310	586
17	495	504	242	504	256	630	414	4340	4180	1230	1740	524
18	343	510	236	411	268	709	425	4890	4340	932	1460	435
19	288	440	236	429	276	548	416	4540	4430	694	1330	383
20	260	457	232	405	300	495	378	5280	4370	903	1180	389
21	287	492	253	394	320	443	275	5300	4980	848	1110	462
22	351	468	284	378	320	461	303	4690	4940	722	948	398
23	338	491	292	372	315	424	336	2200	4170	699	905	427
24	379	459	288	378	383	454	1030	2540	3560	777	878	577
25	392	415	284	383	405	623	2660	3080	3290	740	829	583
26	329	469	264	310	405	574	3420	3340	3240	665	881	449
27	326	585	268	239	372	439	2790	3040	3520	625	925	482
28	316	534	310	240	372	461	1880	2720	3240	635	1270	528
29	293	542	315	250	361	439	1750	1890	3070	600	1060	530
30	299	596	208	260	---	404	1980	1840	2850	580	767	481
31	308	---	239	255	---	388	---	2300	---	588	522	---
TOTAL	11809	13354	8909	11182	9511	14342	26045	113470	105960	38998	32355	14199
MEAN	381	445	287	361	328	463	868	3660	3532	1258	1044	473
MAX	597	596	544	517	447	709	3420	5460	5020	3960	3620	730
MIN	260	312	208	239	256	340	275	1840	1500	580	522	261
AC-FT	23420	2[illegible]490	17670	22180	18870	28450	51660	225100	210200	77350	64180	28160

CAL YR 1979 TOTAL 259733 MEAN 712 MAX 4510 MIN 111 AC-FT 515200
WTR YR 1980 TOTAL [illegible] MEAN 1093 MAX 5460 MIN 208 AC-FT 793700

07121500 TIMPAS CREEK AT MOUTH, NEAR SWINK, CO

LOCATION.--Lat 38°00'11", long 103°39'20", in NW¼SW¼ sec.35, T.23 S., R.56 W., Otero County, Hydrologic Unit 11020005, on left bank 40 ft (12 m) shoreward, 125 ft (38 m) upstream from left end of 20th Rd. Bridge, 1.7 mi (2.7 km) southwest of Swink, and 2.9 mi (4.7 km) upstream from mouth.

DRAINAGE AREA.--496 mi^2 (1,285 km^2).

PERIOD OF RECORD.--January 1922 to September 1925, March 1968 to current year.

REVISED RECORDS.--WDR CO 76-1: 1975.

GAGE.--Water-stage recorder. Altitude of gage is 4,120 ft (1,256 m), from topographic map. Prior to May 29, 1975, at site 140 ft (43 m) downstream at datum 0.13 ft (0.040 m) lower.

REMARKS.--Records good except those November to March, which are fair. Natural flow of stream affected by minor diversions above station for irrigation, water imported from Arkansas River and Crooked Arroyo for irrigation above station, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years (water years 1923-25, 1969-80), 63.6 ft^3/s (1.801 m^3/s), 46,080 acre-ft/yr (56.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft^3/s (348 m^3/s) July 10, 1978, gage height, 21.11 ft (6.434 m), from floodmark, from rating curve extended above 250 ft^3/s (7.1 m^3/s) on basis of contracted-opening measurement of peak flow; minimum daily, 3.3 ft^3/s (0.093 m^3/s) Aug. 7, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1922, 21,400 ft^3/s (606 m^3/s) June 17, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,490 ft^3/s (70.5 m^3/s) at 0500 July 21, gage height, 10.35 ft (3.155 m), from rating curve extended above 250 ft^3/s (7.1 m^3/s) on the basis of contracted-opening measurement of peak flow; minimum daily, 5.0 ft^3/s (0.14 m^3/s) Dec. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	67	45	7.5	14	30	52	59	49	63	38	57
2	55	67	50	8.7	14	32	61	55	123	140	41	47
3	59	56	50	8.7	14	31	32	51	83	119	43	44
4	62	54	50	8.7	13	31	23	35	62	62	50	45
5	60	44	45	8.7	13	30	27	43	65	57	39	41
6	59	37	40	8.7	15	30	43	45	67	50	39	39
7	56	36	37	8.7	13	31	53	76	54	38	40	45
8	52	36	37	7.5	11	30	37	157	53	47	36	45
9	51	39	37	7.0	13	29	35	124	62	46	44	54
10	50	48	37	7.0	14	27	30	107	69	44	42	77
11	50	63	34	7.0	15	23	39	122	47	46	35	131
12	51	65	35	7.0	15	20	46	204	49	56	35	133
13	53	65	37	6.8	17	23	60	200	47	50	34	96
14	56	60	31	8.4	17	31	86	156	46	51	33	73
15	57	55	34	9.4	17	34	96	175	35	56	44	84
16	56	50	36	9.3	17	35	76	143	49	48	48	98
17	53	50	36	8.6	18	36	60	75	60	37	40	97
18	50	50	49	9.6	19	32	79	41	59	38	69	92
19	46	55	44	11	20	22	77	59	112	35	53	91
20	46	60	45	11	21	27	67	110	142	54	49	94
21	48	60	11	11	21	28	75	97	52	471	47	91
22	48	60	8.7	10	22	13	64	182	64	77	45	90
23	49	55	6.5	9.3	23	35	61	152	47	49	47	62
24	48	50	5.0	10	24	69	88	133	58	48	32	53
25	52	45	7.5	11	30	75	74	63	62	48	48	48
26	52	40	12	11	26	64	67	124	62	52	67	50
27	49	40	9.0	9.0	32	71	43	129	59	60	47	49
28	50	40	7.0	8.0	32	81	54	111	66	54	48	49
29	53	40	6.0	8.0	31	84	51	82	62	48	55	50
30	56	43	6.0	8.0	---	65	86	63	63	47	54	47
31	63	---	6.0	10	---	76	---	64	---	40	39	---
TOTAL	1637	1530	893.7	274.6	551	1245	1742	3237	1928	2131	1381	2072
MEAN	52.8	51.0	28.8	8.86	19.0	40.2	58.1	104	64.3	68.7	44.5	69.1
MAX	63	67	50	11	32	84	96	204	142	471	69	133
MIN	46	36	5.0	6.8	11	13	23	35	35	35	32	39
AC-FT	3250	3030	1770	545	1090	2470	3460	6420	3820	4230	2740	4110

CAL YR 1979 TOTAL 17116.4 MEAN 46.9 MAX 601 MIN 3.7 AC-FT 33950
WTR YR 1980 TOTAL 18622.3 MEAN 50.9 MAX 471 MIN 5.0 AC-FT 36940

07122400 CROOKED ARROYO NEAR SWINK, CO

LOCATION.--Lat 37°58'56", long 103°35'52", in SW¼SW¼ sec.5, T.24 S., R.55 W., Otero County, Hydrologic Unit 11020005, on right bank 54 ft (16 m) downstream from bridge on State Highway 10, 2.0 mi (3.2 km) upstream from mouth, and 2.8 mi (4.5 km) southeast of Swink.

DRAINAGE AREA.--108 mi² (280 km²).

PERIOD OF RECORD.--February 1968 to current year.

REVISED RECORDS.--WDR CO 76-1: 1975.

GAGE.--Water-stage recorder. Altitude of gage is 4,100 ft (1,250 m), from topographic map.

REMARKS.--Records good except those above 80 ft³/s (2.27 m³/s) which are fair. Natural flow of stream affected by minor diversions above station for irrigation, water exported above station to Timpas Creek, water imported from Arkansas River for irrigation above station, and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--12 years, 11.0 ft³/s (0.312 m³/s), 7,970 acre-ft/yr (9.83 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft³/s (34.0 m³/s) Aug. 7, 1971, gage height, 7.91 ft (2.411 m), from rating curve extended above 87 ft³/s (2.5 m³/s); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 141 ft³/s (3.99 m³/s) at 0300 July 2, gage height, 3.99 ft (1.164 m), from rating curve extended above 40 ft³/s (1.13 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.57 ft³/s (0.016 m³/s) Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	37	7.9	4.5	1.5	.76	9.6	15	41	19	13	44
2	1.3	30	2.6	4.2	1.5	1.0	4.1	12	30	58	13	28
3	4.4	30	2.4	3.4	1.5	1.1	3.3	22	29	56	15	18
4	11	33	3.1	2.6	1.5	.71	2.7	29	26	12	18	13
5	6.3	33	2.6	2.4	1.7	1.3	2.6	22	19	3.0	15	9.4
6	.88	35	2.9	2.2	1.7	2.1	3.7	9.4	18	2.1	14	24
7	1.1	36	2.4	2.2	1.7	1.5	4.1	6.8	17	13	13	15
8	.91	37	2.4	2.1	1.5	1.4	4.1	17	27	13	14	11
9	.57	34	2.2	2.1	1.7	1.1	5.0	18	31	16	13	17
10	1.8	29	2.6	2.1	1.7	.76	4.8	19	34	17	16	47
11	11	30	2.9	1.7	1.7	.90	4.8	33	42	13	19	43
12	5.0	31	3.1	1.7	1.7	1.0	4.3	25	38	12	17	17
13	15	35	3.1	1.7	1.5	1.2	3.8	32	45	14	15	26
14	24	30	2.9	1.7	1.4	1.1	7.5	43	42	17	13	27
15	21	25	3.1	1.7	1.4	.91	18	53	33	16	14	22
16	7.0	29	3.1	2.1	1.4	1.2	22	44	32	13	19	20
17	11	33	3.7	1.9	1.4	1.5	19	20	32	14	32	23
18	11	45	4.0	1.7	1.5	12	25	19	37	18	31	24
19	5.4	48	4.0	1.7	1.5	46	13	13	38	20	19	23
20	2.4	40	4.0	1.5	1.7	29	11	12	20	21	15	20
21	2.0	27	4.0	1.5	1.2	13	19	6.4	20	26	15	22
22	1.8	48	4.2	1.5	1.2	15	14	16	52	22	18	20
23	19	25	4.4	1.4	1.3	25	8.0	37	47	18	20	20
24	9.9	27	4.3	1.7	1.2	33	16	34	30	13	20	14
25	12	31	4.5	1.9	1.5	20	18	42	21	10	21	10
26	13	37	4.4	1.9	1.2	16	9.6	30	21	12	15	7.2
27	12	44	4.7	1.9	1.1	22	23	24	21	15	24	6.8
28	12	36	5.0	1.9	1.0	28	28	24	16	17	29	8.2
29	12	22	5.1	1.9	.71	32	29	33	16	9.1	36	4.6
30	34	9.2	4.8	1.7	---	27	26	37	24	7.6	37	5.0
31	56	---	5.1	1.5	---	30	---	38	---	12	43	---
TOTAL	329.26	986.2	115.5	64.0	41.61	367.54	363.0	785.6	899	528.8	616	589.2
MEAN	10.6	32.9	3.73	2.06	1.43	11.9	12.1	25.3	30.0	17.1	19.9	19.6
MAX	56	48	7.9	4.5	1.7	46	29	53	52	58	43	47
MIN	.57	9.2	2.2	1.4	.71	.71	2.6	6.4	16	2.1	13	4.6
AC-FT	653	1960	229	127	83	729	720	1560	1780	1050	1220	117

CAL YR 1979 TOTAL 4698.82 MEAN 12.9 MAX 73 MIN .08 AC-FT 9320
WTR YR 1980 TOTAL 5685.71 MEAN 15.5 MAX 58 MIN .57 AC-FT 11280

07123000 ARKANSAS RIVER AT LA JUNTA, CO

LOCATION.--Lat 37°59'26", long 103°31'55", in SE¼NE¼ sec.2, T.24 S., R.55 W., Otero County, Hydrologic Unit 11020005, on right bank at upstream side of bridge on State Highway 109 in La Junta, 450 ft (140 m) upstream from King Arroyo.

DRAINAGE AREA.--12,210 mi² (31,624 km²), of which 115 mi² (298 km²) is probably noncontributing.

PERIOD OF RECORD.--May to August 1889, September 1893 to December 1895 (gage heights, discharge measurements, and flood data only), April to October 1903, June to November 1908 (gage heights and discharge measurements only), April 1912 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "near La Junta" in 1903.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1731: 1922.

GAGE.--Water-stage recorder and nonrecording gage read twice daily. Datum of gage is 4,039.60 ft (1,231.270 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to June 13, 1940. June 13, 1940, to June 6, 1967, water-stage recorder at site 300 ft (90 m) upstream at present datum.

REMARKS.--Records fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 400,000 acres (1,620 km²), and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 200,000 ft³/s (5,660 m³/s) June 4, 1921, gage height, 18.4 ft (5.61 m), site and datum then in use, from rating curve extended above 15,000 ft³/s (420 m³/s), on basis of slope-area measurement of peak flow; no flow Jan. 20-23, Mar. 20-22, 1915.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,420 ft³/s (238 m³/s) at 0100 May 2, gage height, 9.34 ft (2.847 m); minimum daily, 18 ft³/s (0.51 m³/s) Dec. 4, 5, 10, 11, Apr. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	49	21	165	100	67	66	1350	1020	306	56	204
2	47	42	20	200	110	64	33	3450	832	496	42	166
3	27	40	19	175	115	64	89	2370	290	350	54	106
4	30	41	18	180	100	86	27	1510	226	564	56	106
5	26	42	18	220	103	97	27	750	124	876	105	113
6	30	43	19	140	106	91	29	950	54	444	151	113
7	56	44	20	120	110	88	30	256	138	230	91	106
8	94	45	20	100	86	97	27	2320	594	56	106	97
9	91	45	20	110	86	100	26	4070	869	132	129	129
10	64	47	18	150	97	94	26	2910	1070	80	133	208
11	72	43	18	240	100	75	27	3420	1640	140	213	243
12	86	45	19	220	88	80	30	2900	2540	200	162	103
13	88	70	20	240	91	94	22	1720	2460	72	119	260
14	91	51	42	230	78	122	18	1040	2540	58	91	415
15	100	50	136	213	62	96	23	1660	2400	111	628	436
16	90	40	151	174	49	26	26	2710	2270	129	1110	339
17	103	51	141	162	64	23	25	3790	2020	183	401	290
18	75	67	188	140	75	20	36	3580	2350	129	436	255
19	94	51	174	119	62	62	33	3750	3840	75	280	178
20	69	47	170	106	62	47	30	3810	3140	58	263	140
21	103	35	174	106	64	32	40	4190	3220	293	119	116
22	147	58	187	94	75	32	40	4940	3010	54	97	97
23	144	39	174	86	72	42	33	2200	1520	47	80	88
24	126	35	158	91	64	49	100	1670	1100	47	204	83
25	147	35	162	97	72	39	1150	2440	943	49	191	144
26	106	55	162	56	113	30	570	2650	760	42	204	178
27	86	45	170	70	119	55	536	2250	648	43	222	113
28	91	42	154	55	88	51	529	2140	730	43	255	100
29	62	41	154	50	88	49	750	1510	443	36	432	126
30	56	37	133	90	---	49	815	421	462	35	280	110
31	75	---	150	100	---	45	---	1010	---	60	250	---
TOTAL	2532	1375	3030	4299	2499	1966	5213	73737	43253	5438	6960	5162
MEAN	81.7	45.8	97.7	139	86.2	63.4	174	2379	1442	175	225	172
MAX	147	70	188	240	119	122	1150	4940	3840	876	1110	436
MIN	26	35	18	50	49	20	18	256	54	35	42	83
AC-FT	5020	2730	6010	8530	4960	3900	10340	146300	85790	10790	13810	10240

CAL YR 1979 TOTAL 69566.2 MEAN 191 MAX 1600 MIN 6.6 AC-FT 138000
WTR YR 1980 TOTAL 155464.0 MEAN 425 MAX 4940 MIN 18 AC-FT 308400

07123675 HORSE CREEK NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°05'06", long 103°21'12", in SE¼SW¼ sec.33, T.22 S., R.53 W., Bent County, Hydrologic Unit 11020008, 15 ft (5 m) right of right upstream end of box culverts on State Highway 194, 3.2 mi (5.1 km) upstream of mouth, 3.4 mi (5.5 km) downstream from Fort Lyon Canal Aqueduct, and 7.5 mi (12.1 km) west of Las Animas.

PERIOD OF RECORD.--October 1979 to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 3,975 ft (1,212 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair, and those for October, which are poor. Natural flow of stream affected by seepage and sluicing from Fort Lyon Canal. There is some irrigation upstream, however, amounts are unknown. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 176 ft³/s (4.98 m³/s) at 0145 May 18, gage height, 3.42 ft (1.042 m); minimum daily recorded, 0.20ft³/s (0.006 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	1.2	2.7	3.1	3.3	3.5	12	26	30	25	3.1	2.1
2	.20	1.2	2.7	3.1	3.3	3.2	11	46	34	40	6.7	2.0
3	.30	1.3	2.5	3.3	3.3	3.5	14	53	22	75	8.0	1.5
4	.40	1.4	2.6	3.3	3.5	3.5	17	61	21	83	7.0	1.3
5	.60	1.5	3.0	3.7	3.9	3.9	17	49	22	73	5.0	1.5
6	.70	1.8	3.1	3.5	4.0	3.5	15	45	24	86	4.0	2.3
7	.90	1.8	3.0	3.5	4.0	3.7	15	54	33	97	5.0	1.6
8	1.0	1.8	2.9	4.0	3.9	5.6	13	72	50	88	4.0	1.4
9	1.0	1.6	2.9	4.0	3.7	5.8	11	108	49	46	6.0	1.9
10	1.0	1.6	3.1	4.0	3.5	4.2	12	110	47	28	4.0	2.7
11	1.0	1.6	3.2	4.0	3.5	3.6	11	141	50	19	3.0	2.4
12	1.0	1.6	3.1	4.0	3.5	3.5	10	129	60	16	2.0	2.1
13	.90	1.7	2.8	4.0	3.5	3.3	8.7	110	61	12	2.0	1.9
14	.80	2.1	3.0	4.0	3.5	3.8	6.3	53	66	12	3.0	1.9
15	.70	2.2	2.9	4.0	3.5	3.8	3.6	36	48	12	6.0	2.0
16	.50	2.2	2.9	4.3	3.3	4.1	4.0	90	33	12	7.0	1.9
17	.55	2.1	3.8	4.4	3.3	3.6	3.1	154	25	9.7	8.0	1.6
18	.60	2.0	2.9	4.4	3.5	4.9	1.9	170	69	5.9	7.0	1.6
19	.66	2.0	2.9	4.4	3.9	6.1	1.7	148	90	5.3	6.0	1.4
20	.74	2.0	2.9	4.4	4.3	5.7	1.5	103	82	7.2	5.0	1.4
21	.74	2.2	2.9	4.4	4.4	1.8	1.3	72	85	7.7	3.0	1.3
22	.92	2.4	2.9	4.4	4.2	1.3	1.2	37	77	6.8	3.8	1.2
23	.92	2.4	3.0	4.4	4.0	1.3	2.4	26	95	7.9	3.9	1.2
24	1.0	2.6	3.1	4.4	3.7	2.2	6.9	20	90	7.6	4.5	1.3
25	1.0	2.7	3.1	4.4	3.5	4.5	22	14	53	8.5	4.2	2.1
26	1.1	2.7	3.1	4.2	3.5	5.7	16	12	28	9.1	3.2	2.5
27	1.2	2.7	3.2	4.0	3.5	7.4	15	11	24	8.2	5.4	2.0
28	1.2	2.7	3.3	3.5	3.6	9.7	18	9.8	28	5.0	3.6	2.2
29	1.4	2.6	3.0	3.5	3.4	8.9	17	9.1	26	4.8	2.6	1.9
30	1.4	2.9	3.0	3.6	---	8.2	12	23	31	4.0	5.1	1.6
31	1.4	---	2.9	4.1	---	9.5	---	26	---	2.7	5.9	---
TOTAL	26.13	60.6	92.4	122.3	106.0	143.3	300.6	2017.9	1453	824.4	147.0	53.8
MEAN	.84	2.02	2.98	3.95	3.66	4.62	10.0	65.1	48.4	26.6	4.74	1.79
MAX	1.4	2.9	3.8	4.4	4.4	9.7	22	170	95	97	8.0	2.7
MIN	.20	1.2	2.5	3.1	3.3	1.3	1.2	9.1	21	2.7	2.0	1.2
AC-FT	52	120	183	243	210	284	596	4000	2880	1640	292	107

WTR YR 1980 TOTAL 5347.43 MEAN 14.6 MAX 170 MIN .20 AC-FT 10610

NOTE.--NO GAGE-HEIGHT RECORD OCT. 1-31.

07124000 ARKANSAS RIVER AT LAS ANIMAS, CO

LOCATION.--Lat 38°04'51", long 103°13'09", in SE¼NE¼ sec.3, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020009, on right bank at upstream side of bridge on U.S. Highway 50, 1.1 mi (1.8 km) north of courthouse in Las Animas, and 4.2 mi (6.8 km) upstream from Purgatoire River.

DRAINAGE AREA.--14,417 mi² (37,340 km²), of which 441 mi² (1,142 km²) is probably noncontributing.

PERIOD OF RECORD.--May to November 1898 (gage heights only), August to November 1909 (gage heights and discharge measurements only), May 1939 to current year.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,883.97 ft (1,183.834 m), National Geodetic Vertical Datum of 1929. May 13 to Nov. 12, 1698, and Aug. 1 to Nov. 10, 1909, nonrecording gages near present site at different datums. May 23, 1939, to Apr. 27, 1967, water-stage recorder at site 0.4 mi (0.6 km) downstream at datum 9.00 ft (2.743 m) lower.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 412,000 acres (1,670 km²), and return flow from irrigated areas. Flow partly regulated by Pueblo Reservoir (station 07099350) since Jan. 9, 1974. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--34 years (water years 1940-73), 203 ft³/s (5.749 m³/s), 147,100 acre-ft/yr (181 hm³/yr), prior to completion of Pueblo Dam; 6 years (water years 1975-80), 154 ft³/s (4.361 m³/s), 111,600 acre-ft/yr (138 hm³/yr), subsequent to completon of Pueblo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,000 ft³/s (1,250 m³/s) May 20, 1955, gage height, 15.03 ft (4.581 m), site and datum then in use, from rating curve extended above 24,000 ft³/s (680 m³/s), on basis of slope-area measurement of peak flow; minimum daily, 0.9 ft³/s (0.025 m³/s) July 31, Aug. 1, 3, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,610 ft³/s (187 m³/s) at 1900 June 22, gage height, 5.74 ft (1.750 m); minimum daily, 9.3 ft³/s (0.26 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	58	22	118	120	100	65	691	881	331	23	143
2	9.9	43	28	173	130	105	66	2310	815	476	22	112
3	10	28	28	194	130	112	48	1810	522	340	22	85
4	9.3	27	29	243	130	110	80	1630	312	526	22	61
5	10	27	27	201	129	121	45	514	178	703	20	40
6	10	26	25	200	117	125	37	624	97	597	18	37
7	9.5	33	25	194	121	119	37	532	80	380	18	36
8	12	23	23	194	121	125	33	919	277	214	17	33
9	11	21	19	190	127	131	30	3050	859	103	19	37
10	11	22	19	185	116	127	37	2520	1080	88	18	61
11	12	19	19	220	132	115	28	3140	1370	72	19	127
12	11	19	15	220	121	111	30	3160	2130	67	57	101
13	11	18	22	235	121	109	33	2560	2210	93	46	57
14	12	21	25	235	115	131	31	1160	2560	93	33	207
15	14	19	41	232	112	141	42	1140	2220	63	36	333
16	20	16	103	226	108	110	42	1420	2070	59	1020	324
17	19	15	108	198	105	83	42	2890	1880	58	214	259
18	24	15	139	190	102	70	42	2280	1990	67	386	210
19	24	19	139	160	101	63	40	2950	3510	47	270	180
20	29	18	139	139	97	72	38	2750	4420	40	203	128
21	26	28	139	123	112	69	34	3420	4940	116	194	97
22	34	32	145	114	118	60	32	3460	5240	89	118	87
23	35	29	151	114	118	62	34	2910	4130	45	84	80
24	40	32	153	115	115	68	45	1730	2860	44	60	71
25	38	35	144	127	105	69	682	1710	1610	42	108	72
26	39	23	146	135	109	63	714	1800	1070	40	114	101
27	30	23	187	107	109	54	617	1690	983	39	131	101
28	26	22	187	100	111	48	370	1390	830	39	138	86
29	31	22	223	100	100	45	489	1390	569	37	182	78
30	29	19	204	100	---	45	576	826	444	33	241	82
31	30	---	95	110	---	48	---	651	---	25	177	---
TOTAL	637.7	752	2769	5192	3352	2811	4439	59027	52137	4966	4030	3426
MEAN	20.6	25.1	89.3	167	116	90.7	148	1904	1738	160	130	114
MAX	40	58	223	243	132	141	714	3460	5240	703	1020	333
MIN	9.3	15	15	100	97	45	28	514	80	25	17	33
AC-FT	1260	1490	5490	10300	6650	5580	8800	117100	103400	9850	7990	6800

CAL YR 1979 TOTAL 53875.6 MEAN 148 MAX 1770 MIN 9.1 AC-FT 106900
WTR YR 1980 TOTAL 143538.7 MEAN 392 MAX 5240 MIN 9.3 AC-FT 284700

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO

LOCATION.--Lat 37°09'10", long 105°00'45", Las Animas County, Hydrologic Unit 11020010, Maxwell Grant, on right bank, 0.3 mi (0.5 km) east of Stonewall, 0.6 mi (1.0 km) upstream from Crooked Creek, and 7 mi (11 km) northeast of Torres.

DRAINAGE AREA.--52.1 mi² (134.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,710 ft (2,350 m), from topographic map. Prior to June 14, 1978 at present site at datum 2.70 ft (0.82 m) lower.

REMARKS.--Records good except those for winter period which are fair and those for no gage-height record, which are poor. Some diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 187 ft³/s (5.30 m³/s) June 13, 1980, gage height, 5.48 ft (1.670 m), from rating curve extended above 120 ft³/s (3.4 m³/s); minimum daily, 2.8 ft³/s (0.79 m³/s) Mar. 17, 18, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 100 ft³/s (2.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 21	2100	104	2.95	5.12	1.560	June 13	0100	*187	5.30	5.48	1.670
May 24	0200	108	3.06	5.14	1.567						

Minimum daily discharge, 2.9 ft³/s (0.082 m³/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	8.8	7.2	4.0	4.3	4.5	20	52	75	94	21	9.7
2	6.7	9.4	7.2	4.0	4.8	4.5	8.2	51	74	94	23	9.6
3	7.0	11	7.1	4.0	4.3	4.5	6.7	48	72	82	22	9.2
4	7.1	9.3	7.0	4.0	4.0	4.5	6.4	55	78	74	21	8.0
5	6.1	9.2	7.1	4.1	4.1	4.5	7.5	60	80	68	18	8.0
6	5.7	9.2	7.7	4.8	5.3	4.0	7.0	74	83	65	18	8.5
7	5.6	9.4	6.5	4.1	4.7	4.0	7.3	72	80	65	18	9.5
8	5.6	8.7	6.4	3.5	4.0	4.0	7.1	75	86	65	20	9.8
9	5.6	8.8	6.3	3.1	4.0	4.0	6.1	64	109	59	25	17
10	5.7	8.2	6.5	2.9	4.5	4.0	5.2	58	137	64	22	20
11	5.9	8.6	6.2	4.1	5.0	4.0	5.2	56	138	76	22	19
12	6.0	7.8	7.0	4.4	5.0	4.0	5.8	54	139	60	22	17
13	6.3	9.6	7.0	5.4	5.0	4.0	5.9	49	158	55	20	16
14	6.5	10	7.2	5.3	4.5	4.0	7.6	47	130	53	23	16
15	6.5	9.8	7.2	5.9	4.0	4.0	6.3	52	117	52	24	14
16	6.6	9.5	7.2	5.1	4.0	4.5	6.5	57	114	48	19	13
17	6.8	9.2	7.5	6.4	4.5	4.5	6.6	62	106	43	17	11
18	8.0	8.0	7.5	4.1	4.5	4.5	9.1	63	113	38	15	8.2
19	8.1	7.9	7.6	6.0	4.5	4.5	12	62	118	31	14	8.1
20	7.0	7.5	7.1	5.4	4.8	4.0	13	66	114	27	14	8.0
21	7.5	7.7	7.3	5.2	5.9	4.0	13	72	107	24	13	8.1
22	9.1	7.7	7.2	5.0	4.6	4.0	17	80	100	27	13	8.2
23	9.4	7.8	7.0	4.5	5.3	4.5	18	84	100	28	13	8.7
24	9.3	8.2	7.0	4.4	5.0	5.0	18	87	106	27	13	8.8
25	8.8	9.1	6.3	4.3	4.5	4.5	21	80	108	24	17	8.1
26	7.8	9.6	6.3	4.0	4.5	5.0	17	72	104	22	14	7.6
27	7.0	8.6	7.1	3.5	4.5	5.5	21	69	99	22	12	6.9
28	6.8	8.5	5.3	3.5	4.5	5.0	33	68	100	22	11	6.5
29	6.6	7.8	4.7	3.5	4.5	5.9	50	67	98	21	10	6.0
30	6.5	7.3	4.5	4.0	---	6.1	52	68	95	18	10	5.8
31	8.5	---	4.2	4.0	---	4.9	---	70	---	21	9.8	---
TOTAL	217.1	262.2	207.4	136.5	133.1	138.9	419.5	1994	3138	1469	533.8	314.3
MEAN	7.00	8.74	6.69	4.40	4.59	4.48	14.0	64.3	105	47.4	17.2	10.5
MAX	9.4	11	7.7	6.4	5.9	6.1	52	87	158	94	25	20
MIN	5.6	7.3	4.2	2.9	4.0	4.0	5.2	47	72	18	9.8	5.8
AC-FT	431	520	411	271	264	276	832	3960	6220	2910	1060	623

CAL YR 1979 TOTAL 6893.9 MEAN 18.9 MAX 100 MIN 2.8 AC-FT 13670
WTR YR 1980 TOTAL 8963.8 MEAN 24.5 MAX 158 MIN 2.9 AC-FT 17780

NOTE.--NO GAGE-HEIGHT RECORD FEB. 25 TO MAR. 28.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1978 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to current year.
WATER TEMPERATURES: October 1978 to current year.

INSTRUMENTATION.--Water-quality monitor since July 1978. Pumping sediment sampler since July 1978.

REMARKS.--Sediment-discharge data for the 1979-80 water years will be published at a later date.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 543 micromhos Nov. 21, 1979; minimum, 121 micromhos May 30, 1979, June 23, 1980.
WATER TEMPERATURES: Maximum, 21.0°C Aug. 6, 1979; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 543 micromhos Nov. 21; minimum, 121 micromhos June 23.
WATER TEMPERATURES: Maximum, 19.0°C Aug. 4; minimum, 0.0°C on many days during November to April.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
DEC 13...	1200	7.1	415	8.4	.0	--	180	7	51	12	20
JAN 15...	1103	4.8	350	8.3	1.0	10.4	160	41	48	10	10
MAY 08...	1540	70	335	--	--	--	--	--	--	--	--
JUL 23...	1545	25	255	8.1	15.0	7.6	110	9	33	5.8	4.8

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
DEC 13...	.7	1.4	170	55	2.4	.4	7.6	253	.34	4.86	.19
JAN 15...	.3	1.7	120	61	2.3	.3	8.1	214	.29	2.78	.14
MAY 08...	--	--	--	--	--	--	--	--	--	--	--
JUL 23...	.2	1.3	97	28	.9	.2	7.2	143	.19	9.45	.00

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
DEC 13...	--	--	.00	--	--	--	--	20	--	--	--
JAN 15...	--	--	.04	120	0	1	1	10	1	<1	--
MAY 08...	--	--	--	770	--	1	--	--	0	--	0
JUL 23...	.48	.05	.00	160	10	0	1	5	0	<1	2

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
DEC 13...	--	--	--	20	40	--	--	20	10	--	--
JAN 15...	--	4	0	100	20	4	1	60	50	.9	.6
MAY 08...	3	8	--	1400	--	2	--	70	--	.4	--
JUL 23...	3	4	1	250	30	3	0	20	4	.1	.0

DATE	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
DEC 13...	--	--	--	--	--	--	--	--	--	--
JAN 15...	0	<10	1	7	0	0	20	<3	1.6	2.5
MAY 08...	0	--	8	--	0	--	150	--	14	12
JUL 23...	1	<10	5	4	0	0	10	<3	--	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	293	376	391	341	385	355	---	---	---	---	270
2	293	378	379	339	360	359	---	---	---	---	257
3	296	384	364	343	364	351	---	---	---	---	253
4	292	384	375	317	377	351	---	---	---	---	251
5	295	395	400	326	382	345	---	---	---	---	245
6	298	400	417	347	388	---	---	---	---	---	254
7	306	416	426	353	369	---	---	---	---	---	258
8	307	404	415	328	377	---	---	336	---	---	262
9	310	394	406	328	377	---	---	328	---	---	---
10	312	418	404	343	347	---	---	309	---	225	---
11	315	417	379	343	336	---	---	292	---	225	---
12	318	408	369	389	336	---	---	279	---	225	---
13	320	432	379	401	354	---	---	262	---	224	---
14	325	407	340	381	370	---	---	237	---	223	---
15	330	408	318	360	372	---	---	236	---	228	---
16	333	410	320	376	360	---	---	246	---	226	---
17	328	402	340	377	362	---	---	234	---	224	---
18	337	404	350	367	377	---	275	225	151	229	---
19	338	402	342	363	451	---	259	277	---	239	---
20	339	423	329	373	460	---	249	294	---	244	---
21	347	455	329	380	434	---	247	285	---	244	---
22	356	419	331	365	417	---	241	194	---	255	---
23	363	384	318	366	407	---	223	175	---	255	---
24	353	399	313	350	394	---	209	170	---	251	---
25	344	374	350	354	386	---	---	170	---	256	---
26	343	374	341	348	371	---	---	165	---	261	---
27	363	397	315	342	372	---	---	163	---	255	---
28	349	424	322	351	360	---	---	---	---	260	---
29	352	412	344	355	351	---	---	---	---	262	---
30	360	402	343	403	---	---	---	---	---	261	---
31	372	---	358	400	---	---	---	---	---	272	---

07124050 MIDDLE FORK PURGATOIRE RIVER AT STONEWALL, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	10.5	4.5	2.5	.0	.0	.0	.0	1.0	.0	5.5	.0
2	16.0	10.5	5.0	2.5	.0	.0	.0	.0	3.0	.0	6.5	.0
3	15.0	---	5.0	2.0	.5	.0	.0	.0	3.0	.0	7.0	.0
4	14.0	8.5	6.5	2.5	2.0	.0	.5	.0	5.5	.0	5.5	.0
5	15.0	10.0	6.0	2.5	3.0	.0	2.5	.0	5.5	.0	---	---
6	15.0	9.0	6.0	1.5	2.5	.0	2.0	.0	4.0	.0	---	---
7	15.0	9.5	7.5	1.0	3.5	.0	.0	.0	1.0	.0	---	---
8	15.0	9.0	5.0	1.5	2.5	.0	.0	.0	.0	.0	---	---
9	12.0	9.5	4.0	.5	3.5	.0	.0	.0	.0	.0	---	---
10	14.0	8.5	4.5	.0	3.0	.0	1.0	.0	.0	.0	---	---
11	14.5	9.0	3.0	.0	1.0	.0	.5	.0	.0	.0	---	---
12	14.5	9.5	3.0	.0	2.0	.0	2.5	.0	.0	.0	---	---
13	14.0	8.5	.5	.0	.0	.0	4.0	.0	3.0	.0	---	---
14	12.5	10.0	1.5	.0	.0	.0	4.5	.0	4.0	.0	---	---
15	14.0	9.0	2.0	.0	1.5	.0	1.0	.0	6.0	.0	---	---
16	13.0	8.5	2.0	.0	1.0	.0	5.0	.0	3.5	.0	---	---
17	13.0	8.0	3.5	.0	1.0	.0	3.0	.0	5.5	.0	---	---
18	11.0	8.5	4.5	.5	1.0	.0	2.5	.0	4.5	.0	---	---
19	11.0	8.5	3.5	.0	.0	.0	.0	.0	6.0	.0	---	---
20	11.5	9.0	2.5	.0	1.0	.0	.0	.0	3.0	.0	---	---
21	9.0	5.0	.0	.0	2.0	.0	.0	.0	4.5	.0	---	---
22	8.5	4.0	.0	.0	1.0	.0	.0	.0	5.0	.0	---	---
23	10.0	4.5	.0	.0	1.0	.0	.0	.0	2.5	.0	---	---
24	10.0	5.5	.0	.0	.0	.0	1.0	.0	4.0	.0	---	---
25	10.5	6.0	.5	.0	3.0	.0	2.5	.0	2.5	.0	---	---
26	11.0	6.5	.5	.0	1.0	.0	.5	.0	6.5	.0	---	---
27	10.5	6.5	.5	.0	.0	.0	.5	.0	9.0	.0	---	---
28	10.0	5.0	.0	.0	.0	.0	.0	.0	8.0	.0	---	---
29	8.0	4.0	.0	.0	.0	.0	1.0	.0	7.0	.0	---	---
30	4.0	3.0	.0	.0	.0	.0	3.5	.0	---	---	---	---
31	4.0	2.5	---	---	.0	.0	1.0	.0	---	---	---	---

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	11.5	6.5	17.0	9.5		
2	---	---	---	---	---	---	14.0	7.5	15.5	11.5		
3	---	---	---	---	---	---	15.0	6.5	17.0	9.5		
4	---	---	---	---	---	---	14.0	7.0	19.0	9.5		
5	---	---	---	---	---	---	12.5	7.5	15.0	9.0		
6	---	---	---	---	---	---	12.5	8.0	16.5	9.0		
7	---	---	---	---	---	---	11.0	8.0	16.5	10.0		
8	---	---	6.0	4.0	---	---	14.0	8.5	17.5	10.0		
9	---	---	10.5	3.0	---	---	13.0	8.5	---	---		
10	---	---	8.0	2.5	---	---	14.5	8.5	---	---		
11	---	---	8.5	3.0	---	---	17.0	7.5	---	---		
12	---	---	7.5	1.0	---	---	17.0	8.0	---	---		
13	---	---	7.0	1.0	---	---	15.0	9.0	---	---		
14	---	---	7.0	1.5	---	---	15.5	8.5	---	---		
15	---	---	4.0	.5	---	---	17.5	9.0	---	---		
16	---	---	6.0	1.0	---	---	17.0	8.5	---	---		
17	---	---	10.5	3.5	---	---	17.5	8.5	---	---		
18	14.5	---	8.0	2.0	12.5	7.0	16.0	9.0	---	---		
19	15.5	1.0	12.5	2.0	12.0	5.5	15.5	10.0	---	---		
20	10.5	2.0	10.0	3.0	12.0	5.0	16.0	9.5	---	---		
21	13.5	2.0	12.0	3.0	10.5	5.5	16.0	9.0	---	---		
22	13.0	3.5	8.0	3.5	12.5	5.0	15.0	9.5	---	---		
23	10.0	2.5	8.5	2.5	14.0	5.0	15.0	8.5	---	---		
24	---	.0	9.0	3.0	14.0	7.0	14.5	8.5	---	---		
25	---	---	7.5	1.0	11.5	6.5	17.0	8.5	---	---		
26	---	---	7.5	---	13.5	6.0	18.0	9.0	---	---		
27	---	---	8.0	---	14.0	6.5	15.0	9.0	---	---		
28	---	---	8.0	---	13.5	6.5	16.0	8.5	---	---		
29	---	---	5.0	---	14.5	6.5	18.5	9.0	---	---		
30	---	---	6.0	---	13.0	7.5	17.0	10.0	---	---		
31	---	---	---	---	---	---	16.5	9.5	---	---		

07124100 MOLINO CANYON NEAR WESTON, CO

LOCATION.--Lat 37°07'56", long 104°48'35", in NE¼NW¼ sec.32, T.33 S., R.66 W., Las Animas County, Hydrologic Unit 10020010, on right bank 600 ft (180 m) upstream from State Highway 12, 800 ft (240 m) upstream from mouth, and 2.2 mi (3.5 km) east of Weston.

DRAINAGE AREA.--4.23 mi² (10.96 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to current year (seasonal record only).

GAGE.--Water-stage recorder and supercritical-flow flume. Altitude of gage is 6,760 ft (2,060 m) from topographic map.

REMARKS.--Records good except those above 60 ft³/s (1.7 m³/s) which are fair. Recording rain gage at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 469 ft³/s (13.3 m³/s) July 31, 1979, gage height, 6.33 ft (1.929 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38 ft³/s (1.08 m³/s) at 2000 May 15, gage height, 3.77 ft (1.149 m); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00						---	3.5	.16	.00	.00	.00
2	.00						---	3.0	.12	.06	.20	.00
3	.00						---	2.6	.07	.06	.00	.00
4	.00						---	2.1	.05	.00	.00	.00
5	.00						---	1.2	.07	.00	.00	.00
6	.00						---	1.0	.07	.00	.00	.00
7	.00						---	1.4	.09	.00	.00	.00
8	.00						---	1.3	.18	.00	.01	.00
9	.00						---	.97	.16	.00	.00	.00
10	.00						---	1.0	.09	.00	.00	.00
11	.00						---	.90	.07	.00	.00	.00
12	.00						---	.92	.05	.00	.00	.00
13	.00						---	.84	.05	.00	.00	.00
14	.00						---	.72	.01	.00	.06	.59
15	.00						---	6.4	.03	.00	.00	.00
16	.00						---	5.3	.03	.00	.00	.00
17	.00						---	3.7	.01	.00	.00	.00
18	.00						---	3.1	.03	.00	.00	.00
19	.00						---	1.8	.16	.00	.00	.00
20	.00						---	.72	.09	.00	.00	.00
21	.00						---	2.0	.12	.00	.00	.00
22	.00						.00	2.7	.16	.00	.00	.00
23	.00						.02	2.6	.07	.00	.00	.00
24	.00						.26	2.0	.05	.00	.00	.00
25	.00						.52	2.1	.00	.00	.00	.00
26	.00						.42	2.7	.00	.00	.41	.00
27	.00						.92	1.9	.00	.00	.04	.00
28	.00						1.1	1.1	.00	.00	.00	.00
29	.05						.64	.32	.00	.00	.00	.00
30	.03						1.3	.32	.00	.00	.00	.00
31	.08						---	.20	---	.00	.00	---
TOTAL	.16						---	60.41	1.99	.12	.72	.59
MEAN	.005						---	1.95	.066	.004	.023	.020
MAX	.08						---	6.4	.18	.06	.41	.59
MIN	.00						---	.20	.00	.00	.00	.00
AC-FT	.3						---	120	3.9	.2	1.4	1.2

07124100 MOLINO CANYON NEAR WESTON, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to September 1979 (seasonal record only).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to current year.

INSTRUMENTATION.--Pumping sediment sampler since October 1978.

REMARKS.--In addition to pumping sediment sampler, samples were collected by a local observer on rises as this station flows primarily as a result of storm runoff. Sediment discharge record is considered fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 12,600 mg/L Aug. 14, 1979; minimum daily, no flow many days every year.
SEDIMENT LOADS: Maximum daily, 3,070 tons (2,790 t) July 31, 1979; minimum daily, no flow many days every year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 8,050 mg/L May 15; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 290 tons (263 t) May 15; minimum daily, no flow many days during the year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE (DEG C)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
MAY										
07...	2020	3.0	8.0	10.0	1.70	980	3	1	2	48
07...	2130	2.8	8.0	2.90	.90	14000	2	0	1	31
07...	2300	2.2	7.5	2.10	.72	8400	2	0	2	30
15...	1830	4.6	5.5	--	2.80	73000	5	2	1	95
15...	2045	16	6.0	--	3.30	70000	7	3	2	180
15...	2240	42	6.0	--	3.10	55000	10	3	6	120
AUG										
26...	2230	6.5	12.0	--	--	69000	5	0	47	210
26...	2250	6.9	12.0	--	--	61000	5	0	50	160
26...	2335	2.3	11.0	--	--	45000	5	0	47	160

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY									
07...	170	140000	60	3500	.2	0	85	6	460
07...	130	100000	40	2400	.2	0	55	6	360
07...	83	78000	26	1800	.1	0	48	5	510
15...	280	230000	150	7400	.4	0	170	7	920
15...	380	300000	230	10000	.6	0	230	7	1200
15...	320	480000	150	14000	.7	0	170	7	1800
AUG									
26...	500	360000	230	12000	.8	2	320	6	1600
26...	410	250000	190	8600	.8	2	250	6	1300
26...	300	310000	170	5000	.6	1	210	6	890

07124100 MOLINO CANYON NEAR WESTON, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	.00		---						
2	.00		---						
3	.00		---						
4	.00		---						
5	.00		---						
6	.00		---						
7	.00		---						
8	.00		---						
9	.00		---						
10	.00		---						
11	.00		---						
12	.00		---						
13	.00		---						
14	.00		---						
15	.00		---						
16	.00		---						
17	.00		---						
18	.00		---						
19	.00		---						
20	.00		---						
21	.00		---						
22	.00		---						
23	.00		---						
24	.00		---						
25	.00		---						
26	.00		---						
27	.00		---						
28	.00		---						
29	.05		.03						
30	.03		.01						
31	.08		.05						

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	---	---	---	3.5	4710	45	.16	---	.24
2	---	---	---	3.0	---	24	.12	---	.16
3	---	---	---	2.6	---	17	.07	---	.09
4	---	---	---	2.1	---	11	.05	---	.05
5	---	---	---	1.2	---	4.2	.07	---	.06
6	---	---	---	1.0	1290	3.7	.07	---	.05
7	---	---	---	1.4	1840	17	.09	---	.04
8	---	---	---	1.3	1500	5.4	.18	815	.76
9	---	---	---	.97	1360	3.6	.16	509	.24
10	---	---	---	1.0	1310	3.6	.09	300	.07
11	---	---	---	.90	1240	3.0	.07	200	.04
12	---	---	---	.92	1310	3.3	.05	200	.03
13	---	---	---	.84	1260	2.9	.05	200	.03
14	---	---	---	.72	1340	2.6	.01	200	.01
15	---	---	---	6.4	8050	290	.03	200	.02
16	---	---	---	5.3	4660	85	.03	200	.02
17	---	---	---	3.7	2640	27	.01	200	.01
18	---	---	---	3.1	2130	18	.03	200	.02
19	---	---	---	1.8	1800	9.0	.16	200	.09
20	---	---	---	.72	1760	3.4	.09	200	.05
21	---	---	---	2.0	1860	9.8	.12	200	.06
22	.00	---	---	2.7	1540	9.4	.16	200	.09
23	.02	188	.08	2.6	1730	12	.07	200	.04
24	.26	1230	2.2	2.0	1450	8.1	.05	100	.01
25	.52	3800	8.8	2.1	1320	7.5	.00	---	---
26	.42	2860	4.6	2.7	884	6.4	.00	---	---
27	.92	4830	17	1.9	---	4.4	.00	---	---
28	1.1	2470	7.7	1.1	---	2.4	.00	---	---
29	.64	2040	3.7	.32	---	.60	.00	---	---
30	1.3	6190	49	.32	---	.56	.00	---	---
31	---	---	---	.20	---	.32	---	---	---

07124100 MOLINO CANYON NEAR WESTON, CO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	.00	---	---	.00	---	---	.00	---	---
2	.06	275	.14	.20	1400	4.0	.00	---	---
3	.06	49	.01	.00	---	---	.00	---	---
4	.00	---	---	.00	---	---	.00	---	---
5	.00	---	---	.00	---	---	.00	---	---
6	.00	---	---	.00	---	---	.00	---	---
7	.00	---	---	.00	---	---	.00	---	---
8	.00	---	---	.01	200	.04	.00	---	---
9	.00	---	---	.00	---	---	.00	---	---
10	.00	---	---	.00	---	---	.00	---	---
11	.00	---	---	.00	---	---	.00	---	---
12	.00	---	---	.00	---	---	.00	---	---
13	.00	---	---	.00	---	---	.00	---	---
14	.00	---	---	.06	709	1.0	.59	2140	23
15	.00	---	---	.00	---	---	.00	---	---
16	.00	---	---	.00	---	---	.00	---	---
17	.00	---	---	.00	---	---	.00	---	---
18	.00	---	---	.00	---	---	.00	---	---
19	.00	---	---	.00	---	---	.00	---	---
20	.00	---	---	.00	---	---	.00	---	---
21	.00	---	---	.00	---	---	.00	---	---
22	.00	---	---	.00	---	---	.00	---	---
23	.00	---	---	.00	---	---	.00	---	---
24	.00	---	---	.00	---	---	.00	---	---
25	.00	---	---	.00	---	---	.00	---	---
26	.00	---	---	.41	1740	19	.00	---	---
27	.00	---	---	.04	319	.48	.00	---	---
28	.00	---	---	.00	---	---	.00	---	---
29	.00	---	---	.00	---	---	.00	---	---
30	.00	---	---	.00	---	---	.00	---	---
31	.00	---	---	.00	---	---	---	---	---
TOTAL	0.12	---	0.15	0.72	---	24.52	0.59	---	23
YEAR	69.17		783.19						

07124120 SARCILLO CANYON NEAR SEGUNDO, CO

LOCATION.--Lat 37°07'26", long 104°45'49", in NW¼SE¼ sec.34, T.33 S., R.66 W., Las Animas County, Hydrologic Unit 11020010, on right bank about 300 ft (91.4 m) upstream from State Highway 12 bridge, 1.5 mi (2.4 km) west of Segundo, and 500 ft (152 m) upstream from mouth.

DRAINAGE AREA.--35.3 mi^2 (91.4 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1978 to current year (since October 1979, seasonal record only).

GAGE.--Water-stage recorder and super critical-flow flume. Altitude of gage is 6,600 ft (2,012 m), from topographic map.

REMARKS.--Records poor. No diversions above station. Recording rain gage and other weather monitoring gages upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft^3/s (107 m^3/s) July 31, 1979, gage height, 10.03 ft (3.06 m), from floodmarks, from rating curve extended above 45 ft^3/s (1.27 m^3/s) on basis of slope-area measurement at gage height 9.60 ft (2.93 m); minimum daily (April 1972 to September 1979), 0.01 ft^3/s (0.001 m^3/s) June 28, July 9, 10, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 111 ft^3/s (3.14 m^3/s) at 1600 Aug. 14, gage height, 4.70 ft (1.432 m), from rating curve extended as explained above; minimum daily, 0.03 ft^3/s (0.001 m^3/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10						---	6.8	3.0	.68	.54	.20
2	.09						---	5.3	2.8	.78	.54	.26
3	.03						---	4.1	2.5	.73	.50	.27
4	.06						---	3.4	2.4	.66	.40	.21
5	.07						---	3.0	2.2	.49	.35	.28
6	.10						---	2.3	2.1	.34	.30	.25
7	.14						---	2.5	1.9	.34	.25	.32
8	.19						---	2.4	2.2	.23	.34	.19
9	.19						---	1.5	2.8	.10	.34	.38
10	.15						---	1.2	2.5	.33	.25	.27
11	.16						---	1.1	2.3	.39	.24	.30
12	.20						---	.86	1.7	.42	.29	.24
13	.36						---	.77	1.4	.40	.26	.19
14	.34						---	1.0	1.2	.37	5.2	.12
15	.33						---	13	1.2	.23	.45	.13
16	.25						---	15	1.2	.37	.26	.09
17	.29						---	10	1.3	.40	.29	.12
18	.40						.12	7.8	1.1	.34	.27	.14
19	.36						.19	6.7	.96	.44	.25	.18
20	.40						.25	6.5	.89	.44	.20	.15
21	.33						.19	6.2	.92	.41	.18	.12
22	.16						.07	5.9	1.0	.39	.19	.20
23	.21						.24	5.6	1.0	.37	.23	.13
24	.23						1.5	4.9	1.0	.35	.20	.09
25	.23						2.7	4.6	1.0	.34	.12	.12
26	.22						3.8	4.3	1.1	.28	.15	.08
27	.21						4.0	4.0	1.1	.24	.34	.04
28	.21						4.4	3.8	1.1	.23	.24	.08
29	.22						3.6	3.5	.81	.22	.30	.10
30	.41						3.6	3.4	.57	.39	.27	.07
31	.32						---	3.3	---	1.0	.16	---
TOTAL	6.96						---	144.73	47.25	12.70	13.90	5.32
MEAN	.22						---	4.67	1.58	.41	.45	.18
MAX	.41						---	15	3.0	1.0	5.2	.38
MIN	.03						---	.77	.57	.10	.12	.04
AC-FT	14						---	287	94	25	28	11

07124120 SARCILLO CANYON NEAR SEGUNDO, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to September 1980 (seasonal record only).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	ALKALINITY FIELD (MG/L AS CACO3)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)
MAY											
01...	1730	8.1	500	8.4	12.5	160	22000	2	2	--	--
08...	1315	2.2	620	--	14.0	--	4400	2	0	0	11

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY										
01...	170	95000	60	2000	.4	0	66	3	680	34
08...	30	21000	11	400	.1	0	19	5	110	--

07124200 PURGATOIRE RIVER AT MADRID, CO

LOCATION.--Lat 37°07'46", long 104°38'20", in SW¼NE¼ sec.35, T.33 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 70 ft (21 m) downstream from county bridge, 0.3 mi (0.5 km) northeast of Madrid, and 1.0 mi (1.6 km) downstream from Burro Canyon.

DRAINAGE AREA.--550 mi² (1,420 km²), approximately.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--March 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,261.61 ft (1,908.539 m) National Geodetic Vertical Datum of 1929 (U.S. Army, Corps of Engineers bench mark).

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 6,000 acres (24.3 km²) above station.

AVERAGE DISCHARGE.--8 years, 53.0 ft³/s (1.501 m³/s), 38,400 acre-ft/yr (47.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft³/s (405 m³/s) July 20, 1976, gage height, 12.80 ft (3.901 m), from floodmarks, from rating curve extended above 300 ft³/s (8.5 m³/s), on basis of drift-timed measurement of peak flow; minimum daily, 3.0 ft³/s (0.085 m³/s) Feb. 23 to Mar. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 985 ft³/s (27.9 m³/s) at 2400 May 15, gage height, 3.72 ft (1.134 m); no peak above base of 1,000 ft³/s (28.3 m³/s) (revised); minimum daily, 14 ft³/s (0.396 m³/s) Mar. 13, 14, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	23	18	28	25	21	17	438	383	298	48	19
2	28	21	20	28	31	18	30	421	382	304	55	19
3	22	21	26	25	40	19	21	454	340	262	62	18
4	21	27	30	25	38	20	24	481	301	235	58	17
5	22	27	30	30	30	18	28	409	314	211	54	23
6	22	27	30	31	22	17	32	531	341	196	52	18
7	22	25	26	26	24	17	33	478	324	194	64	21
8	21	26	23	25	26	15	27	563	327	188	74	21
9	21	29	19	23	22	15	24	439	579	167	111	44
10	22	38	18	26	32	16	23	357	641	154	70	62
11	22	28	20	27	37	16	28	320	606	165	59	62
12	20	30	22	29	37	16	34	282	593	139	54	45
13	19	24	23	27	28	14	25	238	572	127	47	38
14	19	25	23	25	24	14	30	211	553	137	54	41
15	19	27	28	22	25	15	36	360	519	128	74	40
16	19	27	24	21	34	15	33	560	486	110	44	31
17	19	32	25	17	33	16	42	545	443	105	46	27
18	19	36	27	18	26	15	55	444	447	92	45	23
19	21	31	21	19	27	16	62	346	449	91	38	22
20	21	36	20	23	30	16	76	315	427	80	35	20
21	19	22	21	21	22	15	84	328	391	79	30	19
22	25	21	24	24	20	14	85	379	359	80	27	19
23	25	22	25	27	19	23	102	453	343	91	27	20
24	26	23	22	27	19	16	124	526	338	77	29	19
25	22	26	27	24	19	20	145	529	345	73	40	19
26	19	29	26	21	25	18	150	461	341	70	43	19
27	16	29	25	20	22	19	148	418	326	62	94	19
28	16	22	24	20	21	21	182	393	324	54	30	19
29	16	20	23	20	21	18	225	367	297	53	23	19
30	22	19	26	20	---	18	236	388	292	51	21	19
31	45	---	27	23	---	19	---	363	---	77	20	---
TOTAL	679	793	743	742	779	530	2161	12797	12383	4150	1528	802
MEAN	21.9	26.4	24.0	23.9	26.9	17.1	72.0	413	413	134	49.3	26.7
MAX	45	38	30	31	40	23	236	563	641	304	111	62
MIN	16	19	18	17	19	14	17	211	292	51	20	17
AC-FT	1350	1570	1470	1470	1550	1050	4290	25380	24560	8230	3030	1590

CAL YR 1979 TOTAL 29866.5 MEAN 81.8 MAX 1410 MIN 8.0 AC-FT 59240
WTR YR 1980 TOTAL 38087.0 MEAN 104 MAX 641 MIN 14 AC-FT 75550

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to current year.

PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to current year.
WATER TEMPERATURE: October 1978 to current year.

INSTRUMENTATION.--Water-quality monitor since July 1978. Pumping sediment sampler since July 1978.

REMARKS.--Sediment-discharge data for 1979-80 will be published at a later date.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 589 micromhos Nov. 29, 1979; minimum, 149 micromhos Aug. 15, 1979.
WATER TEMPERATURES: Maximum, 30.5°C Aug. 6, 1979; minimum, 0.0°C on many days during winter months in 1979-80.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 589 micromhos Nov. 29; minimum, 182 micromhos June 13.
WATER TEMPERATURES: Maximum, 27.0°C July 17; minimum, 0.0°C on many days during October to April.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)
DEC											
11...	1235	21	399	8.5	.0	--	180	52	53	12	12
JAN											
14...	1510	25	400	8.5	5.5	9.7	160	3	47	11	21
MAY											
01...	1515	448	330	8.2	6.5	--	--	--	--	--	--
08...	1155	559	295	--	8.0	--	--	--	--	--	--
JUL											
23...	1300	82	355	8.0	22.0	6.9	150	0	44	9.3	13

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
DEC											
11...	.4	1.3	130	72	1.5	.2	8.5	240	.33	13.6	.19
JAN											
14...	.7	1.7	160	53	2.7	.4	7.5	242	.33	16.5	.38
MAY											
01...	--	--	98	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--
JUL											
23...	.5	2.3	150	36	2.3	.4	8.6	207	.28	45.8	.14

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
DEC											
11...	--	--	.00	--	--	--	--	20	--	--	--
JAN											
14...	--	--	.01	1200	0	1	1	--	0	2	--
MAY											
01...	--	--	--	24000	--	3	--	--	1	--	--
08...	--	--	--	7400	--	2	--	--	1	--	0
JUL											
23...	1.30	.19	.00	1400	20	1	1	10	0	<1	2

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
DEC											
11...	--	--	--	20	20	--	--	20	10	--	--
JAN											
14...	--	8	0	1300	<10	8	0	30	6	.1	.1
MAY											
01...	--	130	--	96000	--	59	--	2200	--	.4	--
08...	32	75	--	72000	--	37	--	2000	--	.2	--
JUL											
23...	5	13	2	8000	60	8	0	190	2	.1	.0

DATE	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
DEC										
11...	--	--	--	--	--	--	--	--	--	--
JAN										
14...	0	0	3	0	1	1	20	<3	6.4	4.0
MAY										
01...	0	--	65	--	4	--	310	--	65	--
08...	0	--	50	--	4	--	240	--	--	--
JUL										
23...	0	<10	5	4	1	1	30	<3	14	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	350	394	520	426	443	403	416	300	225	234	394	428
2	360	379	492	410	426	424	421	317	223	237	390	429
3	370	380	442	407	395	439	428	297	224	238	381	434
4	370	392	408	---	394	438	429	300	222	238	373	443
5	376	391	388	---	421	430	434	315	219	242	370	417
6	376	398	393	---	419	443	450	301	216	249	367	452
7	375	400	428	---	440	444	452	295	215	256	356	435
8	377	401	421	---	444	427	465	294	220	256	372	432
9	380	393	454	---	474	428	481	302	213	259	317	418
10	375	379	446	---	456	430	454	300	198	266	365	409
11	375	---	411	---	399	440	422	294	197	278	374	406
12	377	406	419	---	396	439	407	291	188	292	367	396
13	379	385	395	---	397	428	423	297	187	293	362	399
14	377	388	405	---	396	439	429	310	188	301	355	411
15	378	382	393	---	385	438	433	315	189	297	350	403
16	382	382	404	429	358	428	431	311	194	303	374	406
17	382	375	432	421	417	429	409	313	204	304	378	409
18	378	381	423	438	412	420	389	318	203	307	380	412
19	376	381	382	---	433	431	370	326	200	321	387	415
20	380	385	346	---	439	438	345	321	203	333	392	413
21	378	364	342	---	445	445	330	303	206	333	411	414
22	373	419	349	392	458	444	325	281	213	344	407	415
23	382	434	338	426	430	421	303	267	216	357	408	414
24	383	381	398	423	435	412	283	250	217	363	408	408
25	383	335	398	407	440	422	316	241	211	364	396	414
26	381	365	384	428	423	421	366	243	215	366	395	415
27	389	381	391	513	433	432	383	248	214	373	299	414
28	390	398	371	516	443	422	376	244	211	376	407	415
29	387	509	431	514	436	411	377	233	216	381	419	418
30	367	535	452	452	---	429	343	230	221	389	424	425
31	379	---	448	429	---	436	---	230	---	383	430	---

07124200 PURGATOIRE RIVER AT MADRID, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCTOBER MAX	OCTOBER MIN	NOVEMBER MAX	NOVEMBER MIN	DECEMBER MAX	DECEMBER MIN	JANUARY MAX	JANUARY MIN	FEBRUARY MAX	FEBRUARY MIN	MARCH MAX	MARCH MIN
1	---	---	7.5	.0	.5	.0	.0	.0	.5	.0	7.0	.0
2	---	---	8.5	.0	.5	.0	.0	.0	.0	.0	9.5	.0
3	---	---	10.5	.0	.5	.0	.0	.0	.5	.0	11.5	.5
4	---	---	10.5	2.5	.5	.0	---	---	3.5	.0	10.0	.0
5	11.5	---	9.5	1.0	.5	.0	---	---	8.5	.0	13.0	.0
6	12.5	---	10.0	2.5	.5	.0	---	---	5.0	.0	14.0	.5
7	12.0	---	11.0	2.5	2.5	.0	---	---	1.0	.0	11.5	.0
8	12.5	---	8.5	4.5	2.5	.0	---	---	.5	.0	10.5	.0
9	8.0	.5	8.0	1.0	5.0	.0	---	---	.0	.0	13.0	.0
10	13.0	---	7.5	1.0	5.5	.0	---	---	.5	.0	12.5	.0
11	14.0	---	6.0	.5	.0	.0	---	---	.5	.0	12.0	1.5
12	13.0	---	7.5	---	.5	.0	---	---	3.0	.0	12.5	.0
13	13.0	---	7.0	---	.0	.0	---	---	5.5	.0	13.5	.0
14	12.5	---	7.0	---	.0	.0	---	---	8.5	.0	15.5	.0
15	14.5	---	7.5	---	.0	.0	---	---	1.5	.0	16.5	2.0
16	12.5	---	8.0	.5	.0	.0	6.5	.5	1.0	.0	4.5	.0
17	12.5	---	8.5	.5	3.0	.0	5.0	.0	6.5	.0	13.0	.0
18	12.5	---	8.5	.5	.0	.0	6.0	.0	10.0	.0	14.0	.0
19	9.5	---	6.5	.5	.0	.0	1.0	.5	11.0	1.5	14.5	.0
20	3.5	---	7.5	1.0	.0	.0	---	---	6.0	1.0	16.0	2.5
21	4.0	---	2.5	.5	.0	.0	---	---	10.5	.0	17.0	.5
22	10.0	.0	.5	.5	.5	.0	1.0	.0	10.5	.0	5.0	1.0
23	11.5	---	1.0	.5	.0	.0	1.5	.0	7.0	.0	7.5	.0
24	14.0	---	2.0	.5	.0	.0	2.5	.0	9.5	.0	13.5	.0
25	14.5	---	2.0	.5	.0	.0	3.5	.0	8.0	.0	12.5	.5
26	14.0	---	5.5	.5	.0	.0	1.0	.0	11.5	.0	9.5	.0
27	13.5	---	3.0	.5	.0	.0	.5	.0	14.5	.0	5.0	1.5
28	13.5	2.0	1.0	.5	.0	.0	.0	.0	14.0	.0	4.5	.0
29	10.5	---	.5	.0	.0	.0	.0	.0	9.5	.0	8.0	.0
30	1.5	.0	.5	.0	.0	.0	.0	.0	---	---	15.5	.0
31	6.0	.0	---	---	.0	.0	.5	.0	---	---	8.0	.0

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	13.0	.0	8.0	2.5	15.0	7.0	18.5	10.5	26.0	15.0	22.0	11.0
2	8.5	.0	11.5	5.0	16.0	6.5	17.5	13.0	23.0	17.0	22.5	10.5
3	15.5	.0	14.5	4.5	17.0	7.0	21.0	12.0	24.0	15.0	25.0	11.5
4	16.5	.0	14.5	6.5	17.5	8.0	18.5	13.0	24.0	13.5	23.5	11.0
5	15.0	2.5	13.0	8.0	17.5	8.5	21.0	11.5	20.0	14.5	21.5	13.0
6	16.5	2.5	13.5	6.5	16.5	8.0	19.5	13.0	22.0	14.0	19.5	13.5
7	14.0	2.0	11.0	7.0	14.5	8.0	19.0	12.0	22.0	14.5	21.5	13.0
8	16.0	.0	11.5	5.5	15.0	10.5	22.0	12.5	26.0	15.0	20.5	13.0
9	13.0	.0	14.0	6.0	16.0	9.5	21.5	14.5	22.5	14.5	16.5	12.0
10	18.0	1.0	14.5	6.0	14.5	10.0	23.0	14.0	25.5	15.5	18.5	11.5
11	6.5	.5	11.0	7.0	17.5	8.5	22.0	12.5	24.5	16.5	22.0	12.5
12	11.5	.0	11.5	4.5	17.0	8.0	23.5	14.0	25.0	15.0	22.0	10.5
13	15.0	.0	12.0	4.5	17.0	8.0	21.0	15.0	25.5	15.0	21.0	11.0
14	18.0	.0	11.5	6.0	17.0	8.0	21.0	14.5	21.0	16.5	23.0	14.0
15	20.0	2.5	8.5	5.5	16.5	7.5	24.0	14.5	25.5	16.0	24.5	13.0
16	19.0	4.5	10.0	3.5	17.5	8.0	25.0	15.0	25.0	13.0	22.5	13.0
17	19.0	2.5	12.0	6.5	18.5	11.0	27.0	16.0	22.5	13.0	23.5	10.5
18	20.5	2.5	14.0	5.5	18.5	11.5	24.5	15.0	23.5	13.0	23.0	11.0
19	21.0	4.5	16.0	6.0	17.5	10.0	23.0	15.5	24.0	15.0	23.0	12.0
20	16.5	5.5	16.0	8.5	18.0	11.0	23.0	15.0	25.5	11.0	22.5	11.0
21	20.0	6.0	17.0	8.0	17.5	11.0	24.5	15.0	25.0	12.0	21.0	10.0
22	19.5	8.0	16.0	9.0	18.0	10.5	23.0	15.5	25.5	13.5	19.5	8.5
23	15.5	6.5	16.5	7.5	19.0	10.5	22.5	12.0	22.5	13.5	21.0	8.5
24	9.5	.0	15.5	7.5	19.0	11.5	24.0	13.5	24.5	13.0	20.0	7.5
25	8.5	.0	14.0	5.5	16.5	11.0	25.5	14.0	22.5	14.5	19.5	8.0
26	15.0	1.0	15.0	6.5	18.5	10.0	23.0	14.5	22.0	16.0	19.5	9.0
27	18.5	2.5	15.5	6.5	19.5	11.5	24.5	14.5	20.0	13.0	21.0	10.0
28	18.5	6.0	16.5	9.0	18.0	11.5	23.5	14.5	25.0	12.5	20.5	9.0
29	13.5	7.0	15.0	7.0	19.5	12.5	26.5	14.0	19.5	12.5	20.5	9.0
30	11.0	5.5	15.5	6.5	20.0	12.5	23.0	14.5	21.5	10.5	21.0	8.0
31	---	---	16.0	8.0	---	---	24.0	15.0	23.5	11.0	---	---

07124210 MULLIGAN CANYON NEAR BONCARBO, CO

LOCATION.--Lat 37°12'36", long 104°39'38", in SW¼SE¼ sec.34, T.32 S., R.65 W., Las Animas County, Hydrologic Unit 11020010, on left bank 400 ft (122 m) downstream from West Mulligan Canyon, 1.1 mi (1.8 km) from mouth at Reilly Canyon and 2.0 mi (3.2 km) east of Boncarbo.

DRAINAGE AREA.--4.53 mi² (11.73 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to current year (seasonal record only).

GAGE.--Water-stage recorder and supercritical-flow flume. Altitude of gage is 6,870 ft (2,094 m) from topographic map.

REMARKS.--Records good except those Apr. 27 to May 13, which are poor. Flow partially regulated by channel dam upstream since December 1978. Recording rain gage and other weather monitoring gages at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 122 ft³/s (3.46 m³/s) July 31, 1979, gage height, 4.88 ft (1.487 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge recorded, 23 ft³/s (0.65 m³/s) at 0100 May 16, gage height, 3.30 ft (1.006 m), but may have been higher May 4 during period of no gage-height record; no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00						---	9.2	.23	.08	.02	.00
2	.00						---	1.4	.24	.07	.03	.00
3	.00						---	.12	.23	.01	.01	.00
4	.00						---	6.6	.20	.00	.02	.00
5	.00						---	11	.16	.00	.01	.00
6	.00						---	3.4	.18	.00	.01	.00
7	.00						---	.27	.21	.00	.01	.00
8	.00						---	.31	.20	.00	.03	.00
9	.00						---	.30	.20	.00	.03	.00
10	.00						---	.40	.19	.11	.01	.00
11	.00						---	.40	.16	.18	.00	.00
12	.00						---	.40	.16	.16	.00	.00
13	.00						---	.50	.09	.09	.00	.00
14	.00						---	.52	.11	.25	.00	.00
15	.00						---	3.8	.07	.18	.00	.00
16	.00						---	9.8	.07	.16	.00	.00
17	.00						---	3.6	.07	.24	.00	.00
18	.00						---	2.3	.05	.24	.00	.00
19	.00						---	1.9	.04	.20	.00	.00
20	.00						---	1.6	.02	.24	.00	.00
21	.00						---	1.3	.03	.16	.00	.00
22	.00						---	3.1	.02	.07	.00	.00
23	.00						---	1.9	.03	.07	.00	.00
24	.00						---	1.2	.01	.03	.00	.00
25	.00						.03	.79	.01	.00	.00	.00
26	.00						.35	.55	.01	.01	.00	.00
27	.00						.81	.48	.00	.03	.00	.00
28	.00						.02	.45	.00	.01	.00	.00
29	.00						.02	.38	.00	.01	.00	.00
30	.00						2.6	.34	.00	.02	.00	.00
31	.00						---	.31	---	.02	.00	---
TOTAL	.00						---	68.62	2.99	2.64	.18	.00
MEAN	.000						---	2.21	.10	.085	.006	.000
MAX	.00						---	11	.24	.25	.03	.00
MIN	.00						---	.12	.00	.00	.00	.00
AC-FT	.00						---	136	5.9	5.2	.4	.00

07124300 LONG CANYON CREEK NEAR MADRID, CO

LOCATION.--Lat 37°06'53", long 104°36'17", in SE¼NW¼ sec.6, T.34 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank 700 ft (210 m) upstream from private bridge, 1.4 mi (2.3 km) upstream from Uso Canyon, 2.2 mi (3.5 km) southeast of Madrid, and 2.3 mi (3.7 km) upstream from mouth.

DRAINAGE AREA.--100 mi² (260 km²), approximately.

PERIOD OF RECORD.--March 1972 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6,259.09 ft (1,907.771 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No diversion above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--8 years, 2.44 ft³/s (0.069 m³/s), 1,770 acre-ft/yr (2.18 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,140 ft³/s (70.2 m³/s) July 17, 1979, gage height, 7.37 ft (2.097 m), from floodmarks, from rating curve extended above 1,000 ft³/s (28 m³/s), on basis of slope-area measurements at gage heights 6.88 ft (2.097 m), and 7.37 ft (2.246 m); no flow Feb. 22 to May 22, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft³/s (5.7 m³/s) (revised) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Apr. 28	2045	273	7.73	3.52	1.073	Aug. 6	1800	200	5.66	3.30	1.006
May 15[a]	----	802	22.7	[b]4.57	1.393	Aug. 8	1800	*978	27.7	[b]4.84	1.475

[a] About.
[b] From floodmark.
Minimum daily discharge, 0.03 ft³/s (0.001 m³/s) on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.07	.06	.07	.05	.06	.08	160	2.5	.80	.48	.30
2	.07	.06	.10	.05	.07	.07	.11	90	2.6	.95	.48	.30
3	.07	.06	.09	.03	.08	.07	.13	60	1.7	1.2	.70	.30
4	.07	.06	.03	.03	.08	.07	.12	50	1.7	1.1	.48	.30
5	.07	.06	.03	.03	.09	.06	.11	40	1.6	1.2	.48	.30
6	.07	.06	.03	.03	.11	.07	.09	30	1.8	.71	18	.30
7	.07	.06	.03	.03	.07	.07	.08	25	1.5	.52	2.6	.30
8	.07	.06	.03	.03	.08	.07	.08	50	2.1	.75	89	.30
9	.07	.06	.03	.03	.12	.07	.08	40	2.3	.44	22	10
10	.07	.06	.05	.03	.06	.07	.07	35	2.3	.50	3.5	2.2
11	.07	.06	.03	.04	.07	.03	.09	30	2.4	.50	1.8	.70
12	.07	.03	.03	.04	.08	.03	.09	25	1.5	.43	1.2	.48
13	.07	.03	.03	.07	.07	.05	.09	20	1.2	.43	.94	.48
14	.07	.03	.03	.07	.07	.11	.09	20	1.4	.50	3.1	1.8
15	.07	.03	.03	.07	.07	.09	.09	300	1.5	.46	2.6	19
16	.07	.03	.03	.07	.05	.07	.08	150	1.5	.28	1.2	3.1
17	.07	.03	.03	.07	.06	.05	.08	40	1.5	.25	.94	2.2
18	.07	.03	.07	.07	.07	.05	.08	20	1.3	.39	.94	1.2
19	.07	.03	.11	.07	.11	.05	.08	15	1.2	.57	.70	.94
20	.07	.03	.11	.07	.07	.05	.08	12	1.4	.30	.70	.70
21	.07	.03	.11	.07	.09	.05	.07	10	1.6	.30	.70	.48
22	.07	.03	.09	.07	.13	.05	.07	15	1.6	22	.48	.30
23	.07	.03	.07	.10	.13	.05	.07	12	1.6	7.0	.48	.30
24	.08	.03	.07	.04	.08	.05	3.5	10	1.9	2.2	.48	.30
25	.09	.03	.07	.03	.07	.05	6.2	8.0	1.9	1.8	.48	.30
26	.09	.03	.07	.03	.09	.05	8.2	6.0	1.5	1.2	.94	.30
27	.06	.03	.07	.05	.11	.05	9.1	5.0	1.4	.94	.70	.30
28	.06	.03	.07	.03	.06	.05	70	4.5	.85	.70	.70	.48
29	.06	.03	.07	.03	.07	.05	151	4.0	1.4	.70	.48	.48
30	.09	.03	.07	.03	---	.05	120	2.8	.94	.59	.48	.48
31	.06	---	.07	.04	---	.07	---	2.5	---	.48	.45	---
TOTAL	2.20	1.24	1.81	1.52	2.36	1.83	370.01	1291.8	49.69	50.19	158.21	48.92
MEAN	.071	.041	.058	.049	.081	.059	12.3	41.7	1.66	1.62	5.10	1.63
MAX	.09	.07	.11	.10	.13	.11	151	300	2.6	22	89	19
MIN	.06	.03	.03	.03	.05	.03	.07	2.5	.85	.25	.45	.30
AC-FT	4.4	2.5	3.6	3.0	4.7	3.6	734	2560	99	100	314	97

CAL YR 1979 TOTAL 841.15 MEAN 2.30 MAX 254 MIN .00 AC-FT 1670
WTR YR 1980 TOTAL 1979.78 MEAN 5.41 MAX 300 MIN .03 AC-FT 3930

07124350 CARPIOS CANYON NEAR JANSEN, CO

LOCATION.--Lat 37°09'13", long 104°34'02", in NE¼SW¼ sec. 21, T. 33 S., R. 64 W., Las Animas County, Hydrologic Unit 11020010, on right bank, 0.3 mi (0.5 km) upstream from State Highway 12, 0.6 mi (1.0 km) upstream from mouth at Trinidad Lake, and 1.8 mi (2.9 km) west of Jansen.

DRAINAGE AREA.--4.57 mi² (11.84 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1978 to current year (seasonal record only).

GAGE.--Water-stage recorder and supercritical-flow flume. Altitude of gage is 6,260 ft (1,908 m) from topographic map.

REMARKS.--Records good except those above 100 ft³/s (2.8 m³/s) which are fair. Recording rain gage upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 870 ft³/s (24.6 m³/s) June 27, 1978, gage height, 8.10 ft (2.469 m) from floodmark; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 163 ft³/s (4.62 m³/s) at 1730 May 22, gage height, 5.35 ft (1.631 m); no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00						.00	8.3	.01	.01	.00	.03
2	.00						.00	1.3	.01	.84	.01	.01
3	.00						.00	.32	.01	.03	.01	.01
4	.00						.00	3.9	.01	.01	.00	.00
5	.00						.00	2.6	.01	.01	.00	.00
6	.00						.00	.70	.01	.00	.00	.00
7	.00						.00	.50	.01	.00	.00	.00
8	.00						.00	.23	.02	.00	.00	.00
9	.00						.00	.04	.03	.00	.01	.01
10	.00						.00	.02	.02	.00	.00	.01
11	.00						.00	.01	.02	.00	.00	.01
12	.00						.00	.01	.01	.00	.00	.01
13	.00						.00	.01	.01	.00	.00	.00
14	.00						.00	.02	.01	.00	.00	.03
15	.00						.00	3.3	.01	.00	.00	.01
16	.00						.00	3.5	.01	.00	.00	.00
17	.00						.00	.38	.01	.00	.12	.00
18	.00						.00	.20	.01	.00	.04	.00
19	.00						.00	.12	.01	.00	.01	.00
20	.00						.00	.08	.01	.00	.01	.00
21	.00						.00	.07	.01	.00	.00	.00
22	.00						.00	8.1	.01	.00	.00	.00
23	.00						.00	.64	.05	.00	.00	.00
24	---						1.5	.24	.03	.00	.00	.00
25	---						6.0	.12	.03	.00	.00	.00
26	---						4.4	.09	.01	.00	.00	.00
27	---						5.4	.06	.01	.00	.00	.00
28	---						1.3	.05	.01	.00	.00	.00
29	---						.16	.05	.01	.00	.03	.00
30	---						2.1	.04	.01	.00	.01	.00
31	---						---	.01	---	.00	.01	---
TOTAL	---						20.86	35.01	.43	.90	.26	.13
MEAN	---						.70	1.13	.014	.029	.008	.004
MAX	---						6.0	8.3	.05	.84	.12	.03
MIN	---						.00	.01	.01	.00	.00	.00
AC-FT	---						41	69	.9	1.8	.5	.3

07124350 CARPIOS CANYON NEAR JANSEN, CO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1978 to September 1979 (seasonal record only).

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 13,500 mg/L Aug. 14, 1979; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 1,320 tons (1,200 t) July 31, 1979; minimum daily, no flow many days during the year.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 13,500 mg/L Aug. 14; minimum daily, no flow many days during the year.
SEDIMENT LOADS: Maximum daily, 1,320 tons (1,200 t) July 31; minimum daily, no flow many days during the year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
MAY										
15...	2120	19	351	9.0	13.0	2.30	37000	6	1	0
15...	2246	14	282	8.0	8.10	.99	16000	5	0	2

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
MAY										
15...	87	180	150000	180	4500	.5	0	150	5	620
15...	43	120	110000	92	2300	.4	0	69	4	420

07124400 TRINIDAD LAKE NEAR TRINIDAD, CO

LOCATION.--Lat 37°08'27", long 104°33'03", in NE¼SW¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, in valve house near center of dam on Purgatoire River and 3.2 mi (5.1 km) southwest of courthouse in Trinidad.

DRAINAGE AREA.--672 mi² (1,740 km²).

PERIOD OF RECORD.--August 1977 to current year.

REVISED RECORDS.--1978: 1977(M).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers).

REMARKS.--Reservoir is formed by a rock and earthfill dam completed in 1977. Storage began Aug. 19, 1977. Total capacity, 158,500 acre-ft (195 hm³), at elevation 6,276.0 ft (1,912.92 m). Elevation of high crest of spillway, 6,258 ft (1,907.44 m), with capacity of 117,400 acre-ft (145 hm³). Elevation of notch crest in spillway is 6,243.0 ft (1,902.87 m), capacity, 89,170 acre-ft (110 hm³). Permanent pool is 4,500 acre-ft (5.55 hm³) at elevation 6,143.0 ft (1,872.39 m). Elevation of outlet invert is 6,095.0 ft (1,857.76 m). Reservoir is used for flood control, storage for irrigation, and to help control sedimentation. Figures given are total contents.

COOPERATION.--Capacity tables were furnished by U.S. Army, Corps of Engineers.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 58,060 acre-ft (71.6 hm³) June 26, 1980, elevation, 6,222.37 ft (1,896.578 m); no contents prior to Aug. 19, 1977.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 58,060 acre-ft (71.6 hm³) June 26, elevation, 6,222.37 ft (1,896.578 m); minimum contents, 17,700 acre-ft (21.8 hm³) Oct. 13, 14.

Capacity table (elevation, in feet, and contents, in acre-feet)

6,175.0	15,900	6,220.0	33,530	6,220.0	55,020
6,180.0	19,700	6,210.0	43,330	6,230.0	68,580
6,190.0	25,360				

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18310	19430	19400	20450	21410	21930	22600	27900	54530	57830	50850	42620
2	18280	18480	19440	20480	21470	21960	22650	29080	54770	57890	50580	42330
3	18220	18530	19500	20510	21510	21990	22690	30180	54730	57850	50290	42040
4	18170	18570	19570	20550	21550	22010	22730	31300	54620	57740	49940	41740
5	18110	18610	19640	20610	21600	22050	22790	32250	54640	57650	49630	41460
6	18060	18660	19680	20640	21600	22070	22830	33310	54710	57580	49330	41210
7	18010	18710	19740	20640	21610	22070	22860	34280	54740	57580	49030	40970
8	17920	18750	19770	20680	21630	22080	22900	35400	54830	57550	48810	40680
9	17870	18810	19820	20720	21640	22110	22940	36360	55170	57490	48710	40660
10	17840	18870	19860	20770	21680	22130	22980	37140	55450	57330	48610	40620
11	17800	18920	19870	20750	21700	22150	23020	37870	55730	57220	48230	40560
12	17750	18960	19910	20770	21740	22160	23060	38460	55040	57020	47930	40540
13	17700	18990	19930	20820	21690	22180	23100	38970	56420	56780	47660	40510
14	17700	19040	19950	20860	21580	22220	23140	39420	56770	56620	47410	40610
15	17720	19060	19990	20910	21560	22240	23200	40360	57030	56410	47180	40630
16	17750	19080	20000	20950	21590	22240	23240	42170	57240	56060	46860	40610
17	17780	19110	20030	20980	21620	22270	23290	43660	57370	55740	46560	40590
18	17820	19160	20070	21030	21670	22300	23360	44800	57530	55390	46260	40580
19	17870	19230	20080	21050	21700	22310	23440	45520	57660	55030	45920	40540
20	17910	19260	20090	21080	21740	22350	23510	46270	57790	54670	45620	40490
21	17930	19280	20100	21100	21770	22350	23570	47140	57850	54300	45390	40440
22	17980	19320	20140	21140	21790	22340	23640	48180	57910	53990	45130	40390
23	18040	19340	20170	21180	21800	22370	23680	49170	57920	53720	44890	40380
24	18080	19380	20190	21200	21820	22380	23930	50120	57920	53400	44670	40350
25	18190	19430	20230	21240	21850	22400	24120	50990	57920	53100	44440	40330
26	18190	19420	20270	21230	21870	22410	24320	51780	58060	52800	45260	40310
27	18220	19380	20320	21230	21900	22460	24580	52430	58040	52500	44080	40310
28	18250	19360	20350	21240	21930	22490	24970	53030	58010	52150	43800	40300
29	18290	19360	20360	21300	21920	22510	25770	53580	57940	51810	43520	40290
30	18350	19370	20390	21330	---	22560	26520	53950	57870	51470	43230	40280
31	18380	---	20420	21370	---	22590	---	54250	---	51200	42930	---
MAX	18380	19430	20420	21370	21930	22590	26520	54250	58060	57890	50850	42620
MIN	17700	18430	19400	20450	21410	21930	22600	27900	54530	51200	42930	40280

WTR YR 1980 MAX 58060 MIN 17700

07124410 PURGATOIRE RIVER BELOW TRINIDAD LAKE, CO

LOCATION.--Lat 37°08'37", long 104°32'49", in SW¼NE¼ sec.27, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank at toe of dam and 3.0 mi (4.8 km) southwest of courthouse in Trinidad.

DRAINAGE AREA.--672 mi² (1,740 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1976 to current year.

GAGE.--Water-stage recorder with concrete control. Datum of gage is 6,073.64 ft (1,851.245 m), National Geodetic Vertical Datum of 1929 (levels by U.S. Army, Corps of Engineers). Auxillary gage is water-stage recorder in shelter about 1,000 ft (305 m) downstream.

REMARKS.--Records good. Natural flow of stream affected by diversions above station for irrigation of about 6,000 acres (24 km²). Flow since Aug. 19, 1977, completely regulated by Trinidad Lake (station 07124400) immediately upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 712 ft³/s (20.2 m³/s) Oct. 17, 1979, gage height, 7.58 ft (2.210 m), from rating curve extended above 470 ft³/s (13.3 m³/s); no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 712 ft³/s (20.2 ³/s) at 1700 Oct. 17, gage height, 7.58 ft (2.310 m), from rating curve extended above 470 ft³/s (13.3 m³/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	.08	.04	.08	.00	.00	.14	.07	210	286	220	161
2	35	.07	.03	.36	.00	.00	.12	.07	232	277	220	161
3	40	.07	.02	.22	.00	.00	.10	.07	350	277	220	159
4	47	.06	.02	.22	.00	.00	.07	.06	368	276	220	159
5	50	.05	.00	.22	.00	.06	.06	.05	311	239	220	150
6	50	.07	.00	.22	.00	.04	.04	.06	313	199	220	145
7	50	.29	.00	.22	.06	.04	.04	.05	313	189	220	145
8	50	.35	.00	.17	.03	.04	.04	.05	313	189	204	145
9	45	.32	.00	.04	.04	.04	.04	.05	351	204	197	104
10	42	.29	.00	9.7	.03	.04	1.7	.05	446	234	197	82
11	42	.27	.00	15	.03	.04	1.6	.05	452	240	197	82
12	42	.19	.00	13	.03	.04	.20	.04	427	240	197	59
13	40	.16	.00	4.8	45	.16	.05	.05	369	240	197	48
14	24	.14	.00	.00	63	.03	.05	.05	332	238	197	35
15	1.0	9.4	.00	.00	24	.02	.04	.07	333	254	195	30
16	.02	16	.00	.00	.00	.02	.04	.07	334	270	195	30
17	15	5.7	.00	.00	.00	.02	.04	.07	334	270	195	30
18	.15	.00	.04	.00	.00	.00	.04	.06	335	266	193	30
19	.04	.00	9.1	.00	.00	.00	.04	142	335	263	191	30
20	.08	.00	14	.00	.00	.00	.04	91	327	263	177	31
21	.07	.00	14	.00	.00	.00	2.6	.05	322	259	161	31
22	.05	.00	4.8	.00	.00	.00	15	.05	322	243	139	31
23	.04	.00	.14	.00	.00	.00	36	.05	323	234	128	26
24	.04	.00	.14	.00	.00	.00	20	.05	323	234	128	22
25	.60	.00	.14	.00	.00	.00	.05	.05	323	234	144	20
26	.76	34	.12	.00	.00	.00	.05	.06	255	229	161	20
27	.58	50	.14	.00	.00	.00	.06	36	321	220	165	20
28	.56	17	.10	.00	.00	.00	.07	71	321	220	163	19
29	.42	.05	.10	.00	.00	.00	.07	90	322	220	163	19
30	.39	.05	.08	.00	---	.00	.07	152	310	220	163	18
31	.19	---	.08	.00	---	.00	---	206	---	220	163	---
TOTAL	599.99	134.61	43.09	44.25	132.22	.59	78.46	789.35	9927	7447	5750	2042
MEAN	19.4	4.49	1.39	1.43	4.56	.019	2.62	25.5	331	240	185	68.1
MAX	50	50	14	15	63	.16	36	206	452	286	220	161
MIN	.02	.00	.00	.00	.00	.00	.04	.04	210	189	128	18
AC-FT	1190	267	85	88	262	1.2	156	1570	19690	14770	11410	4050

CAL YR 1979 TOTAL 17452.64 MEAN 47.8 MAX 360 MIN .00 AC-FT 34620
WTR YR 1980 TOTAL 26988.56 MEAN 73.7 MAX 452 MIN .00 AC-FT 53530

07124500 PURGATOIRE RIVER AT TRINIDAD, CO

LOCATION.--Lat 37°10'15", long 104°30'31", in SW¼SE¼ sec.13, T.33 S., R.64 W., Las Animas County, Hydrologic Unit 11020010, on left bank 90 ft (27 m) downstream from railroad bridge and 680 ft (210 m) downstream from Animas Street Bridge in Trinidad.

DRAINAGE AREA.--795 mi² (2,059 km²).

PERIOD OF RECORD.--October 1895 to September 1899, August to December 1905, November 1906 to March 1907, October 1907 to November 1908, May to August 1909 (gage heights and discharge measurements only), September 1909 to November 1912, October 1915 to September 1960, October 1961 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1915, published as "Purgatory River."

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1311: 1935(M). WSP 1731: 1925(M), 1942(M).

GAGE.--Water-stage recorder. Datum of gage is 5,979.76 ft (1,822.631 m) National Geodetic Vertical Datum of 1929. See WSP 1711 or 1731 for history of changes prior to Dec. 11, 1950. Dec. 11, 1950, to Sept. 30, 1960, water-stage recorder at site 180 ft (55 m) upstream at datum 2.00 ft (0.610 m) higher. Since May 30, 1955, supplemental nonrecording gage at site 90 ft (27 m) upstream on downstream side of railroad bridge; at datum 3.00 ft (0.914 m) lower prior to Oct. 1, 1962, and at present datum thereafter.

REMARKS.--Records good. Diversions above station for irrigation of about 6,500 acres (26.3 km²). Peak flows regulated to some extent by Trinidad Dam, 3.8 mi (6.1 km) upstream, since January 1975.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--68 years (water years 1896-99, 1908, 1910-12, 1916-60, 1962-76), 83.3 ft³/s (2.359 m³/s), 60,350 acre-ft/yr (74.4 hm³/yr), prior to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) May 19, 1955, gage height, 14.35 ft (4.374 m), site and datum then in use, from rating curve extended above 2,800 ft³/s (79 m³/s), on basis of indirect measurements of peak flow above and below station; no flow for several days during summer of 1896, June 11, 1950, Sept. 20, 25, 28, 29, Oct. 3-5, 7, 8, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1859, 45,400 ft³/s (1,290 m³/s) Sept. 30, 1904, gage height, 16.6 ft (5.06 m), at site 680 ft (210 m) upstream, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 490 ft³/s (13.9 m³/s) at 1130 May 19, gage height, 2.88 ft (0.878 m); minimum daily, 0.80 ft³/s (0.023 m³/s) Mar. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	2.1	1.2	1.2	1.0	.95	1.1	191	196	278	215	163
2	37	1.6	1.2	1.2	1.0	.95	1.6	107	215	272	218	161
3	40	1.4	1.2	1.1	1.0	1.1	1.2	52	306	275	215	159
4	47	1.4	1.2	1.1	1.0	.90	1.2	37	345	275	212	159
5	49	1.4	1.2	1.2	1.0	1.0	1.0	39	296	227	212	150
6	49	1.4	1.1	1.0	1.0	.90	1.0	24	306	193	212	143
7	49	1.4	1.2	1.0	1.0	.95	1.0	21	306	188	207	143
8	49	1.7	1.1	1.2	1.0	.90	1.0	37	310	188	198	146
9	45	1.7	1.2	1.0	1.0	.95	1.0	27	342	204	196	136
10	41	2.2	1.2	7.0	1.2	.90	1.7	19	425	230	196	88
11	41	1.6	1.0	12	1.1	.90	4.8	16	425	239	193	87
12	42	2.3	1.0	26	1.1	.90	2.4	13	397	236	193	63
13	42	1.4	1.0	6.7	39	.90	2.0	11	357	236	190	52
14	30	1.6	.95	1.2	66	.85	1.8	11	320	236	188	58
15	8.7	7.5	1.2	1.4	32	.80	1.8	71	324	249	188	36
16	2.8	15	.95	1.1	1.4	.85	1.2	137	320	265	190	35
17	7.9	8.3	1.1	1.0	1.2	1.1	1.6	45	331	262	190	34
18	2.8	1.2	1.0	1.0	1.1	1.0	1.4	30	331	255	188	33
19	2.3	1.6	5.8	1.0	1.0	.90	1.1	133	331	252	188	33
20	2.3	1.8	14	1.1	1.0	.90	1.1	115	331	255	175	33
21	3.9	1.2	14	1.0	1.0	.95	1.9	23	324	245	159	33
22	3.5	1.4	7.2	1.0	1.0	.85	11	22	324	230	139	33
23	2.6	1.2	1.4	.95	1.0	2.1	33	20	324	224	127	29
24	2.2	1.2	1.4	1.0	1.0	1.2	54	16	324	224	129	24
25	2.3	1.2	1.2	1.0	.95	1.1	87	15	324	224	139	21
26	2.7	27	1.1	.90	.90	1.0	35	14	259	215	159	22
27	2.6	48	1.1	1.1	.90	1.0	78	38	314	215	166	19
28	2.4	22	1.2	1.2	.90	1.0	149	70	314	215	163	16
29	2.6	1.4	1.0	1.8	.90	1.1	128	88	314	215	161	19
30	3.5	1.4	1.1	1.0	---	1.0	104	131	303	215	161	16
31	2.2	---	1.1	1.0	---	1.1	---	185	---	215	161	---
TOTAL	646.3	164.6	71.60	81.45	163.65	31.00	711.9	1758	9638	7252	5628	2144
MEAN	20.8	5.49	2.31	2.63	5.64	1.00	23.7	56.7	321	234	182	71.5
MAX	49	48	14	26	66	2.1	149	191	425	278	218	163
MIN	2.2	1.2	.95	.90	.90	.80	1.0	11	196	188	127	16
AC-FT	1280	326	142	162	325	61	1410	3490	19120	14380	11160	4250

CAL YR 1979 TOTAL 18889.20 MEAN 51.8 MAX 369 MIN .95 AC-FT 37470
WTR YR 1980 TOTAL 28290.50 MEAN 77.3 MAX 425 MIN .80 AC-FT 56110

07126100 LUNING ARROYO NEAR MODEL, CO

LOCATION.--Lat 37°18'16", long 104°00'54", in sec.33, T.31 S., R.59 W., Las Animas County, Hydrologic Unit 11020010, on right bank 600 ft (180 m) downstream from ford, 6 mi (10 km) upstream from mouth, 13.5 mi (21.7 km) east of Model, and 29 mi (47 km) northeast of Trinidad.

DRAINAGE AREA.--86 mi² (233 km²).

PERIOD OF RECORD.--July 1966 to September 1980 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 5,150 ft (1,570 m), from topographic map.

REMARKS.--Records good. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--14 years, 1.06 ft³/s (0.030 m³/s), 768 acre-ft/yr (0.95 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,400 ft³/s (2.66 m³/s) Aug. 9, 1968, gage height, 12.46 ft (3.798 m), from rating curve extended above 32 ft³/s (0.91 m³/s), on basis of slope-area measurements at gage heights 8.78 and 11.39 ft (2.676 and 3.472 m); no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2.9 ft³/s (0.08 m³/s) at 0400 Apr. 27, gage height, 1.54 ft (0.469 m), no peak above base of 500 ft³/s (14 m³/s); no flow most of time.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.63	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.92	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.99	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	.00	.00	.00	.00	.00	.00	1.00	1.58	.00	.00	.00	.00
MEAN	.000	.000	.000	.000	.000	.000	.033	.051	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.99	.92	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	2.0	3.1	.00	.00	.00	.00

CAL YR 1979 TOTAL 282.86 MEAN .77 MAX 54 MIN .00 AC-FT 561
WTR YR 1980 TOTAL 2.58 MEAN .007 MAX .99 MIN .00 AC-FT 5.1

07126200 VAN BREMER ARROYO NEAR MODEL, CO

LOCATION.--Lat 37°20'45", long 103°57'27", in sec.13, T.31 S., R.59 W., Las Animas County, Hydrologic Unit 11020010, on right bank 3 mi (5 km) upstream from mouth, 16 mi (26 km) east of Model, and 33 mi (53 km) northeast of Trinidad.

DRAINAGE AREA.--168 mi² (435 km²).

PERIOD OF RECORD.--July 1966 to September 1980 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 4,960 ft (1,512 m), from topographic map.

REMARKS.--Records fair except those for period of no gage-height record, which are poor.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.-- 14 years, 2.07 ft³/s (0.059 m³/s), 1,500 acre-ft/yr (1.85 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft³/s (177 m³/s) May 26, 1967, gage height, 9.4 ft (2.87 m), from floodmarks, from rating curve extended above 65 ft³/s (1.8 m³/s), on basis of slope-area measurement of peak flow; maximum gage height, 9.98 ft (3.042 m) Aug. 9, 1979 from floodmark; no flow June 7-13, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 72 ft³/s (2.04 m³/s) at 2030 Aug. 14, gage height, 1.69 ft (0.515 m), no peak above base of 450 ft³/s (13 m³/s); minimum daily, 0.06 ft³/s (0.002 m³/s) Apr. 22, Aug. 25, 29-31, Sept. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	.18	.12	.12	.21	.15	.15	2.1	.18	.15	.21	.09
2	.15	.40	.12	.12	.21	.15	.15	1.3	.18	.18	.21	.09
3	.15	.30	.12	.12	.21	.15	.15	.80	.18	.21	.18	.06
4	.15	.25	.12	.12	.18	.15	.15	.50	.18	.21	.18	.09
5	.15	.25	.12	.12	.18	.15	.15	.40	.21	.21	.18	.09
6	.15	.25	.12	.12	.18	.21	.15	.30	.21	.21	.18	.09
7	.15	.25	.12	.12	.21	.25	.15	.30	.21	.21	.21	.09
8	.15	.25	.12	.12	.21	.21	.15	.50	.21	.21	.25	.09
9	.15	.21	.12	.15	.21	.21	.15	.40	.21	.21	2.2	.12
10	.15	.21	.12	.18	.21	.21	.15	.40	.21	.21	.70	.12
11	.12	.21	.12	.18	.21	.15	.15	.30	.21	.21	.25	.12
12	.12	.21	.12	.18	.21	.15	.15	.25	.21	.21	.21	.12
13	.12	.18	.12	.18	.21	.15	.15	.25	.21	.18	.25	.12
14	.12	.18	.12	.18	.21	.15	.15	.25	.21	.18	5.9	.12
15	.12	.18	.12	.15	.21	.15	.15	.25	.21	.18	3.5	.09
16	.12	.18	.12	.15	.21	.15	.15	.50	.21	.18	.30	.09
17	.12	.15	.12	.25	.21	.15	.15	.40	.21	.18	.21	.09
18	.12	.15	.12	.25	.21	.15	.12	.30	.18	.18	.15	.09
19	.12	.15	.12	.25	.18	.15	.12	.25	.18	.18	.15	.09
20	.12	.15	.12	.25	.18	.15	.09	.21	.18	.15	.15	.09
21	.12	.15	.12	.25	.18	.15	.09	.18	.15	.15	.09	.12
22	.12	.15	.12	.25	.18	.15	.06	.18	.15	.32	.09	.12
23	.12	.15	.12	.25	.15	.15	.09	.18	.15	.60	.09	.12
24	.12	.15	.12	.25	.15	.15	.21	.15	.15	.25	.09	.12
25	.12	.15	.12	.21	.15	.15	.90	.12	.12	.25	.06	.12
26	.12	.12	.12	.21	.15	.15	.70	.12	.12	.21	.09	.12
27	.12	.12	.12	.21	.15	.15	.40	.15	.12	.21	.09	.12
28	.12	.12	.12	.21	.15	.15	.25	.12	.15	.21	.09	.12
29	.12	.12	.12	.21	.15	.15	.21	.15	.15	.21	.06	.12
30	.15	.12	.12	.21	---	.15	.25	.15	.15	.21	.06	.12
31	.15	---	.12	.25	---	.15	---	.18	---	.21	.06	---
TOTAL	4.08	5.64	3.72	5.82	5.46	4.99	6.04	11.64	5.40	6.67	16.44	3.15
MEAN	.13	.19	.12	.19	.19	.16	.20	.38	.18	.22	.53	.11
MAX	.15	.40	.12	.25	.21	.25	.90	2.1	.21	.60	5.9	.12
MIN	.12	.12	.12	.12	.15	.15	.06	.12	.12	.15	.06	.06
AC-FT	8.1	11	7.4	12	11	9.9	12	23	11	13	33	6.2

CAL YR 1979 TOTAL 1948.08 MEAN 5.34 MAX 430 MIN .03 AC-FT 3860
WTR YR 1980 TOTAL 79.05 MEAN .22 MAX 5.9 MIN .06 AC-FT 157

NOTE.--NO GAGE-HEIGHT RECORD MAR. 9 TO APR. 15.

07126300 PURGATOIRE RIVER NEAR THATCHER. CO

LOCATION.--Lat 37°21'30". long 103°53'44". in sec.10. T.31 S.. R.58 W.. Las Animas County. Hydrologic Unit 11020010. on right bank 250 ft (76 m) downstream from county road bridge at gas line crossing. 1.2 mi (1.9 km) downstream from Van Bremer Arroyo. and 18 mi (29 km) southeast of Thatcher.

DRAINAGE AREA.--1.935 mi^2 (5.012 km^2).

PERIOD OF RECORD.--July 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4.790 ft (1.460 m). from topographic map.

REMARKS.--Records good except those for winter period. which are poor. Diversions above station for irrigation of about 30.000 acres (120 km^2). Peak flows regulated to some extent by Trinidad Dam. 52 mi (84 km) upstream. since January 1975.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--10 years (water years 1967-76). 37.9 ft^3/s (1.073 m^3/s). 27.460 acre-ft/yr (33.9 hm^3/yr). prior to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. 15.100 ft^3/s (428 m^3/s) June 17. 1967. gage height. 12.35 ft (3.764 m). from rating curve extended above 2.100 ft^3/s (59 m^3/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of July 22. 1954. and May 19. 1955. reached stages of 26.7 and 25.2 ft (8.14 and 7.68 m). respectively. from floodmarks. Flood of June 8. 1965. reached a stage of 23.5 ft (7.16 m). from floodmarks. discharge. 47.700 ft^3/s (1.350 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge. 3.780 ft^3/s (107 m^3/s) at 0900 May 1. gage height. 7.92 ft (2.414 m). from rating curve extended above 1.600 ft^3/s (45 m^3/s). on basis of slope-area measurement of peak flow; minimum daily. 3.9 ft^3/s (0.11 m^3/s) Sept. 7.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	31	17	15	16	15	23	2120	51	59	26	13
2	11	34	19	14	18	15	22	1390	52	55	24	12
3	9.2	30	22	15	20	15	22	745	48	55	29	11
4	12	30	25	15	23	15	23	355	108	55	31	9.2
5	14	29	25	16	23	15	22	297	130	50	35	6.5
6	21	28	22	15	19	15	19	372	77	35	32	4.6
7	24	26	24	13	21	14	16	432	61	20	46	3.9
8	27	25	24	15	16	14	15	299	57	15	35	4.4
9	22	24	22	15	14	14	14	462	57	14	173	1620
10	24	25	21	18	17	13	14	264	78	13	84	318
11	24	26	20	23	18	13	13	214	142	11	47	189
12	26	28	19	20	20	13	13	192	143	19	35	118
13	27	28	18	20	23	13	15	156	137	27	31	85
14	24	27	15	36	22	13	18	130	131	28	29	64
15	30	24	18	33	19	13	17	137	73	28	79	74
16	35	24	15	29	18	13	16	1490	85	25	46	61
17	27	23	18	26	16	14	16	739	86	31	34	51
18	23	22	20	26	20	15	14	375	89	30	26	42
19	23	22	19	23	20	15	12	264	111	33	25	39
20	23	23	19	22	19	15	13	358	93	36	24	35
21	26	26	18	19	18	15	13	240	90	43	24	31
22	28	23	17	22	17	14	13	159	92	39	24	29
23	30	20	15	18	16	15	13	148	95	38	22	27
24	26	22	15	19	16	17	16	131	98	34	18	23
25	26	21	16	23	15	17	177	112	88	36	10	19
26	26	20	15	16	15	18	188	96	87	27	6.6	18
27	26	21	14	14	14	18	432	79	70	27	7.3	16
28	26	20	13	12	14	18	713	68	65	23	134	14
29	24	15	13	13	14	18	1260	68	72	22	24	14
30	36	16	13	14	---	18	937	78	69	23	19	14
31	38	---	14	15	---	17	---	65	---	26	16	---
TOTAL	749.2	733	565	594	521	467	4099	12035	2635	977	1195.9	2965.6
MEAN	24.2	24.4	18.2	19.2	18.0	15.1	137	388	87.8	31.5	38.6	98.9
MAX	38	34	25	36	23	18	1260	2120	143	59	173	1620
MIN	9.2	15	13	12	14	13	12	65	48	11	6.6	3.9
AC-FT	1490	1450	1120	1180	1030	926	8130	23870	5230	1940	2370	5880

CAL YR 1979 TOTAL 24299.7 MEAN 66.6 MAX 3010 MIN 1.1 AC-FT 48200
WTR YR 1980 TOTAL 27536.7 MEAN 75.2 MAX 2120 MIN 3.9 AC-FT 54620

07126500 PURGATOIRE RIVER AT NINEMILE DAM, NEAR HIGBEE, CO

LOCATION.--Lat 37°42'53", long 103°30'38", in NW¼ sec.7, T.27 S., R.54 W., Otero County, Hydrologic Unit 11020010, on left bank at Ninemile Dam, 4 mi (6 km) southwest of Higbee, and 5.5 mi (8.8 km) upstream from Smith Canyon. Prior to Apr. 21, 1978 gage located 850 ft (260 m) upstream.

DRAINAGE AREA.--2,900 mi² (7,511 km²).

PERIOD OF RECORD.--October 1924 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1311: 1934(M), 1936(M), 1941-42(M), 1948-49(M). WSP 1731: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 4,240.59 ft (1,292.532 m) National Geodetic Vertical Datum of 1929, supplementary adjustment of 1960. See WSP 1711 or 1731 for history of changes prior to Dec. 6, 1956. Dec. 6, 1956 to Apr. 20, 1978, at site 350 ft (160 m) upstream.

REMARKS.--Records good. Diversions for irrigation of about 32,000 acres (130 km²) above station. Discharge computed by combining discharge of river below Ninemile Dam and Ninemile canal.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--52 years (water years 1925-76), 94.5 ft³/s (2.676 m³/s), 68,470 acre-ft/yr (84.4 hm³/yr), prior to completion of Trinidad Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105,000 ft³/s (2,970 m³/s) estimated, June 18, 1965, gage height, 19.6 ft (5.97 m), from floodmarks; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,260 ft³/s (92.3 m³/s) at 0500 Sept. 10, gage height, 5.15 ft (1.570 m); minimum daily, 7.6 ft³/s (0.22 m³/s) Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	48	24	24	25	17	37	561	82	57	13	16
2	9.8	43	25	26	30	17	48	969	71	58	16	13
3	8.3	36	26	32	27	17	34	502	62	111	17	11
4	8.3	30	24	33	33	17	36	190	60	91	17	9.5
5	9.0	23	24	33	30	17	36	218	80	61	18	10
6	9.0	23	27	33	32	17	39	204	120	51	20	9.8
7	12	20	25	33	32	17	39	366	81	43	22	9.2
8	13	28	24	33	24	17	36	319	65	37	25	9.2
9	14	29	25	33	21	17	31	322	61	31	68	8.7
10	19	29	24	33	27	17	30	347	58	25	146	991
11	20	28	24	38	28	16	30	207	64	23	78	264
12	20	29	24	35	13	22	24	263	110	18	50	198
13	20	30	23	35	7.9	21	18	283	125	16	35	140
14	20	32	25	45	7.9	17	22	216	109	13	31	99
15	20	32	27	45	7.9	16	22	159	117	15	26	70
16	19	30	25	44	12	13	25	304	71	22	46	67
17	22	24	24	42	17	13	25	1080	71	22	57	67
18	26	24	41	41	17	16	22	516	73	20	43	55
19	26	24	28	38	17	16	24	326	73	19	32	46
20	22	24	28	36	17	16	22	256	90	23	25	32
21	22	24	26	34	17	16	20	362	88	35	19	31
22	22	28	24	31	17	16	17	228	77	32	18	28
23	25	31	24	28	17	17	9.9	176	73	32	16	26
24	25	30	25	28	17	18	18	159	73	32	16	25
25	26	28	25	27	17	18	47	150	76	31	13	24
26	26	28	24	26	18	18	193	128	71	31	12	20
27	25	28	24	23	17	22	289	111	68	31	12	18
28	26	24	24	21	17	24	590	101	65	22	7.6	17
29	28	26	26	20	17	24	884	82	52	22	58	16
30	26	25	24	20	---	24	614	82	59	17	32	13
31	51	---	23	23	---	22	---	89	---	13	22	---
TOTAL	631.4	858	786	993	579.7	555	3281.9	9276	2345	1054	1010.6	2343.4
MEAN	20.4	28.6	25.4	32.0	20.0	17.9	109	299	78.2	34.0	32.6	78.1
MAX	51	48	41	45	33	24	884	1080	125	111	146	991
MIN	8.3	20	23	20	7.9	13	9.9	82	52	13	7.6	8.7
AC-FT	1250	1700	1560	1970	1150	1100	6510	18400	4650	2090	2000	4650

CAL YR 1979 TOTAL 25886.7 MEAN 70.9 MAX 2590 MIN 1.6 AC-FT 51350
WTR YR 1980 TOTAL 23714.0 MEAN 64.8 MAX 1080 MIN 7.6 AC-FT 47040

07128500 PURGATOIRE RIVER NEAR LAS ANIMAS, CO

LOCATION.--Lat 38°02'02", long 103°12'00", in NE¼SW¼ sec.23, T.23 S., R.52 W., Bent County, Hydrologic Unit 11020010, on right bank at downstream side of bridge on State Highway 101, 2.3 mi (3.7 km) southeast of courthouse in Las Animas, and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--3,503 mi² (9,073 km²).

PERIOD OF RECORD.--May to September 1889. July to October 1909 (gage heights and discharge measurements only), January 1922 to September 1931, July 1948 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Purgatoire Creek at Las Animas in 1889 and as Purgatory River near Las Animas in 1909.

REVISED RECORDS.--WSP 1241: 1927(M).

GAGE.--Water-stage recorder. Datum of gage is 3,874.94 ft (1,181.082 m), National Geodetic Vertical Datum of 1929. See WSP 1731 for history of changes prior to Oct. 1, 1955. Oct. 1, 1955, to July 11, 1966, at datum 3.00 ft (0.914 m) higher. Supplementary water-stage recorder at site 1.6 mi (2.6 km) downstream at different datum July 12 to Nov. 17, 1966.

REMARKS.--Records good. Diversions for irrigation of about 36,000 acres (150 km²) above station. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--37 years (water years 1923-31, 1949-76), 116 ft³/s (3.285 m³/s) 84,040 acre-ft/yr (104 hm³/yr), prior to completion of Trinidad Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,000 ft³/s (1,980 m³/s) May 20, 1955, gage height, 20.00 ft (6.096 m), present datum, from rating curve extended above 38,000 ft³/s (1,100 m³/s); no flow at times in 1924-25, 1927, 1949, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1860 occurred Oct. 1, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft³/s (54.4 m³/s) at 1400 May 2, gage height, 6.07 ft (1.850 m); minimum daily, 1.2 ft³/s (0.034 m³/s) Oct. 1, Aug. 25-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	61	41	14	24	16	40	817	58	12	2.3	3.1
2	2.8	59	27	16	24	16	95	1350	56	15	2.2	3.1
3	5.2	73	34	18	25	24	88	1010	41	19	2.2	2.7
4	3.2	67	38	21	30	22	72	746	26	47	2.1	2.7
5	3.0	63	32	20	38	18	64	449	28	63	2.1	2.7
6	2.2	47	28	21	32	17	75	351	30	24	2.0	2.7
7	1.7	29	21	29	28	17	80	382	71	20	2.0	2.7
8	2.7	47	18	26	26	16	63	449	58	16	2.0	2.7
9	19	48	19	20	25	16	50	339	54	8.9	2.0	4.2
10	18	52	20	15	21	12	41	440	53	7.3	8.0	335
11	15	51	18	17	25	5.0	41	352	51	6.3	17	338
12	11	51	17	22	26	5.4	35	261	48	8.9	21	150
13	7.7	51	13	27	27	4.3	37	233	79	5.7	6.0	128
14	9.8	58	12	33	30	4.6	33	199	123	5.1	4.2	101
15	8.7	55	8.9	38	25	13	28	201	72	5.6	3.8	62
16	7.2	55	8.9	34	19	13	29	206	90	5.2	3.2	40
17	17	54	6.3	43	18	11	33	814	52	4.8	3.2	38
18	12	61	5.7	44	27	6.9	27	648	47	4.5	3.2	41
19	8.8	63	10	39	33	5.9	28	437	36	4.0	3.2	28
20	11	61	12	38	27	5.6	21	339	35	4.0	2.7	21
21	16	45	8.3	36	22	5.1	18	313	48	9.0	2.7	20
22	28	12	8.4	32	22	4.0	19	359	62	9.0	2.7	14
23	27	11	8.0	30	24	5.8	23	227	60	5.0	2.2	14
24	24	17	7.3	30	25	6.4	25	182	51	3.7	1.7	7.9
25	23	20	7.2	30	24	7.8	54	174	41	3.2	1.2	6.3
26	26	53	6.2	26	23	8.3	101	148	40	3.0	1.2	17
27	20	60	6.9	22	21	22	166	115	39	2.8	1.7	7.3
28	16	58	8.7	19	20	37	322	115	34	2.7	1.7	7.2
29	20	43	8.5	21	23	36	556	91	25	2.6	2.2	9.7
30	34	38	8.4	24	---	48	822	61	21	2.5	2.2	8.3
31	46	---	13	26	---	42	---	54	---	2.4	2.7	---
TOTAL	447.2	1463	480.7	831	734	471.1	3086	11862	1529	332.2	116.6	1420.3
MEAN	14.4	48.8	15.5	26.8	25.3	15.2	103	383	51.0	10.7	3.76	47.3
MAX	46	73	41	44	38	48	822	1350	123	63	21	338
MIN	1.2	11	5.7	14	18	4.0	18	54	21	2.4	1.2	2.7
AC-FT	887	2900	953	1650	1460	934	6120	23530	3030	659	231	2820

CAL YR 1979 TOTAL 21114.1 MEAN 57.8 MAX 1380 MIN 1.2 AC-FT 41880
WTR YR 1980 TOTAL 22773.1 MEAN 62.2 MAX 1350 MIN 1.2 AC-FT 45170

07130000 JOHN MARTIN RESERVOIR AT CADDOA, CO

LOCATION.--Lat 38°04'05", long 102°56'13", in NE¼NW¼ sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, at dam on Arkansas River at Caddoa, 3.2 mi (5.1 km) southeast of Hasty, and 58 mi (93 km) upstream from Colorado-Kansas State line.

DRAINAGE AREA.--18,915 mi² (48,990 km²), of which 785 mi² (2,033 km²) is probably noncontributing.

PERIOD OF RECORD.--January 1943 to current year. Monthend contents only prior to November 1943, published in WSP 1311.

GAGE.--Water-stage recorder for elevations above about 3,784 ft (1,153.4 m) and nonrecording gage read once daily for those below. Datum of gage is 3,760.00 ft (1,146.048 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Corps of Engineers); gage readings have been reduced to elevations NGVD.

REMARKS.--Records good. Reservoir is formed by concrete and earthfill dam. Storage began while dam was under construction prior to 1943, and record of contents began Jan. 1, 1943. Capacity (based on 1972 resurvey; new capacity table put into use Nov. 1, 1972), 621,300 acre-ft (766 hm³) at elevation 3,870.00 ft (1,179.576 m) top of spillway gates, of which 351,000 acre-ft (433 hm³) between elevations 3,764.20 ft (1,147.328 m), elevation of no contents, and 3,851.00 ft (1,173.785 m) is for conservation, and 270,300 acre-ft (333 hm³) between elevations 3,851.00 ft (1,173.785 m) and 3,870.00 ft (1,179.576 m) is reserved for flood control. No dead storage. Figures given represent total contents.

COOPERATION.--Capacity tables furnished by U.S. Army, Corps of Engineers.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 429,600 acre-ft (530 hm³) Aug. 25, 1965, elevation, 3,856.16 ft (1,175.358 m); no contents at times most years.

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents, 179,000 acre-ft (221 hm³) June 24, elevation, 3,832.79 ft (1,168.234 m); minimum contents, 3,850 acre-ft (4.8 hm³) Oct. 17, 19, elevation, 3,788.68 ft (1,154.790 m).

Capacity table (elevation, in feet, and contents, in acre-feet)

3,785.0	1,400	3,800.0	24,200	3,830.0	158,500
3,790.0	5,370	3,810.0	55,900	3,840.0	237,800
3,795.0	13,300	3,820.0	98,600		

CONTENTS, IN ACRE FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4060	5260	9350	15800	26000	34800	41800	50400	166000	168000	87700	53700
2	3950	5370	9480	16200	26300	35100	42200	56400	167000	166000	85000	53400
3	4020	5470	9610	16500	26700	35300	42500	62400	167000	164000	82300	52900
4	4030	5630	9790	16900	27100	35600	42700	67400	167000	162000	79500	52500
5	4030	5800	9940	17200	27500	35900	43100	70000	166000	160000	76900	51900
6	4040	5900	10100	17600	27900	36200	43300	72100	166000	158000	73900	51400
7	4050	6070	10100	17900	28300	36500	43700	74300	165000	156000	71000	50900
8	3990	6240	10300	18100	28500	36700	43900	76400	164000	154000	68300	50400
9	3980	6420	10400	18300	28700	37000	44100	81300	164000	151000	66500	50300
10	3990	6550	10500	18500	29000	37100	44400	87200	163000	149000	65000	49800
11	3990	6720	10600	18800	29300	37400	44600	93300	162000	146000	63500	50400
12	3960	6840	10700	19200	29700	37700	44700	99100	162000	143000	62200	50600
13	3950	6960	10700	19600	30000	37800	44800	103000	163000	140000	61300	50400
14	3950	7090	10800	20100	30200	38100	45000	106000	164000	138000	60400	50200
15	3920	7240	10900	20600	30500	38300	45100	108000	165000	135000	59600	50300
16	3870	7380	11000	21100	30700	38600	45200	111000	166000	132000	59600	50400
17	3860	7500	11200	21600	31000	38800	45300	117000	167000	129000	59300	50400
18	3870	7680	11400	22200	31300	38900	45400	122000	167000	127000	59000	50400
19	3860	7900	11700	22600	31500	39100	45500	128000	168000	124000	58800	50200
20	3900	8070	12000	23100	32000	39200	45600	133000	170000	121000	58400	49900
21	3970	8160	12400	23400	32300	39300	44800	139000	172000	118000	58000	49800
22	4030	8170	12700	23800	32500	39400	43400	145000	173000	116000	57500	49200
23	4170	8310	13100	24100	32800	39800	42100	151000	177000	113000	57000	48800
24	4280	8430	13600	24400	33100	39800	41000	153000	179000	110000	56400	48400
25	4400	8570	13800	24800	33300	40100	41900	156000	178000	107000	55900	48000
26	4490	8710	14200	25000	33600	40100	43800	158000	177000	105000	55500	47500
27	4630	8840	14600	25100	33900	40600	45200	161000	176000	102000	55100	47300
28	4690	9040	15100	25200	34100	40800	46200	163000	174000	99000	54700	46800
29	4700	9120	15400	25300	34600	40900	46800	165000	172000	96000	54500	46500
30	5000	9220	15600	25600	---	41000	48500	166000	170000	93200	54100	46000
31	5090	---	15700	25800	---	41500	---	166000	---	90400	53700	---
MAX	5090	9220	15700	25800	34600	41500	48500	166000	179000	168000	87700	53700
MIN	3860	5260	9350	15800	26000	34800	41000	50400	162000	90400	53700	46000

WTR YR 1980 MAX 179000 MIN 3860

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO

LOCATION.--Lat 38°03'59", long 102°55'55", in NW¼NE¼ sec.8, T.23 S., R.49 W., Bent County, Hydrologic Unit 11020009, on right bank 0.2 mi (0.3 km) downstream from John Martin Dam, 2.6 mi (4.2 km) upstream from Caddoa Creek, and 3.5 mi (5.6 km) southeast of Hasty.

DRAINAGE AREA.--18,915 mi² (48,990 km²), of which 785 mi² (2,033 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1938 to current year. Published as "at Caddoa" prior to October 1947.

REVISED RECORDS.--WSP 1241: 1942(M). WSP 1341: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,737.40 ft (1,139.160 m), National Geodetic Vertical Datum of 1929. Prior to Feb. 22, 1940, at site 3 mi (5 km) upstream at datum 22.83 ft (6.959 m) higher. Feb. 22, 1940, to Feb. 4, 1943, at site 700 ft (210 m) upstream at datum 3.64 ft (1.109 m) higher. Feb. 5, 1943, to Apr. 8, 1975, at site 1.5 mi (2.4 km) downstream at datum approximately 27.5 ft (8.38 m) lower.

REMARKS.--Records good. Storage diversions above station for irrigation of about 438,000 acres (1,770 km²) and for flood control. Flow completely regulated by John Martin Dam (station 07130000) 0.2 mi (0.3 km) upstream since Oct. 1948.

AVERAGE DISCHARGE.--5 years (water years 1939-43), 628 ft³/s (17.78 m³/s), unadjusted, 455,000 acre-ft/yr (561 hm³/yr) during construction of John Martin Dam; 32 years (water years 1949-80), 217 ft³/s (6.145 m³/s), 157,200 acre-ft/yr (194 hm³/yr), adjusted for storage in John Martin Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s (1,130 m³/s) Apr. 24, 1942, gage height, 10.46 ft (3.188 m), site and datum then in use, from rating curve extended above 12,000 ft³/s (340 m³/s) on basis of flow-over-dam and critical-depth measurement of peak flow; no flow at times in 1945-47; minimum daily prior to construction of John Martin Reservoir, 5 ft³/s (0.14 m³/s) July 16, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,610 ft³/s (45.6 m³/s) at 1100 July 17, gage height, 4.95 ft (1.509 m); minimum daily, 0.36 ft³/s (0.010 m³/s) Dec. 25-Jan. 3, Apr. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	9.1	2.4	.36	1.0	1.4	1.1	436	444	1440	1440	306
2	24	18	2.5	.36	.95	1.4	1.1	3.0	471	1430	1430	292
3	19	14	2.5	.36	.95	1.2	1.1	2.3	507	1440	1410	285
4	21	16	3.1	4.3	.95	1.2	1.1	2.2	525	1430	1410	282
5	23	17	3.5	1.7	.95	1.4	1.1	2.2	534	1440	1400	277
6	23	18	4.3	1.2	.95	1.2	1.2	4.1	543	1440	1430	263
7	25	18	4.0	1.0	.95	1.2	.95	3.2	552	1420	1430	254
8	34	18	4.0	1.0	.95	1.2	1.2	3.2	552	1470	1450	250
9	40	18	4.0	1.0	.95	1.2	1.2	3.1	841	1540	1240	263
10	43	18	4.0	1.0	.95	.95	1.4	2.7	1280	1510	715	266
11	44	18	4.0	1.0	.95	.95	1.0	2.4	1290	1500	709	250
12	45	18	4.0	1.0	.95	.95	1.2	205	1330	1480	600	301
13	46	13	4.0	1.0	.95	.95	1.1	329	1410	1470	461	318
14	49	10	4.0	1.0	.95	.73	.95	326	1460	1490	448	308
15	49	10	4.0	1.0	.95	.73	.95	317	1470	1490	479	300
16	48	10	4.0	1.0	.95	.73	.95	311	1450	1480	479	313
17	46	10	2.4	1.0	.95	1.2	.95	307	1470	1530	484	311
18	46	10	.54	1.0	.95	.95	1.1	306	1510	1530	446	332
19	47	10	.53	1.0	.95	1.2	.53	305	1530	1450	406	320
20	46	10	.53	1.0	.95	1.2	.36	305	1480	1420	387	297
21	46	10	.53	1.0	.95	.73	476	307	1470	1440	404	297
22	33	10	.53	1.0	.95	.53	702	309	1480	1460	369	285
23	27	10	.53	1.0	.95	.95	949	314	1490	1450	320	284
24	27	10	.53	1.0	.95	1.2	772	316	1520	1470	317	286
25	26	10	.36	1.0	.95	.73	3.3	323	1480	1500	348	308
26	24	10	.36	1.0	.95	.75	2.5	328	1490	1490	369	308
27	23	10	.36	1.0	.95	.98	2.3	349	1470	1480	332	298
28	23	6.0	.36	1.0	.95	1.4	304	394	1470	1480	307	308
29	29	3.6	.36	1.0	.95	1.5	664	403	1480	1490	305	310
30	18	2.6	.36	1.0	---	1.2	639	430	1440	1490	305	298
31	2.3	---	.36	1.0	---	1.1	---	444	---	1450	303	---
TOTAL	1026.3	365.3	66.94	33.28	27.60	33.01	4534.64	7092.4	35439	45600	21933	8770
MEAN	33.1	12.2	2.16	1.07	.95	1.06	151	229	1181	1471	708	292
MAX	49	18	4.3	4.3	1.0	1.5	949	444	1530	1540	1450	332
MIN	2.3	2.6	.36	.36	.95	.53	.36	2.2	444	1420	303	250
AC-FT	2040	725	133	66	55	65	8990	14070	70290	90450	43500	17400

CAL YR 1979 TOTAL 68369.03 MEAN 187 MAX 1190 MIN .36 AC-FT 135600
WTR YR 1980 TOTAL 124921.47 MEAN 341 MAX 1540 MIN .36 AC-FT 247800

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued
(Irrigation Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1942 to August 1943, October 1945 to July 1949, January 1951 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1951 to current year.
WATER TEMPERATURES: January 1951 to current year.

REMARKS.--Measurements of specific conductance and water temperature are taken by personnel of U.S. Army, Corps of Engineers.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,180 micromhos Apr. 21, 1955; minimum daily, 476 micromhos June 18, 1965.
WATER TEMPERATURES: Maximum daily, 29.0°C Aug. 6, 1951; minimum, freezing point on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Not determined.
WATER TEMPERATURES: Not determined.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO
MAR 14...	1315	1.2	2910	7.9	12.0	12.4	1300	950	320	130	300	3.6
JUN 18...	1045	1450	1500	8.0	19.0	10.0	510	370	120	52	120	2.3
AUG 19...	1645	421	1360	7.9	24.0	8.7	460	310	110	46	110	2.2
SEP 19...	1330	301	1550	8.2	20.0	9.1	520	380	120	53	130	2.5

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
MAR 14...	7.5		1400	90	1.0	11	2490	3.39	8.07	.18	.23
JUN 18...	6.3		590	34	1.0	9.6	1020	1.39	3990	.61	.48
AUG 19...	6.5		500	35	.9	4.2	904	1.23	1030	--	.18
SEP 19...	7.1		610	41	.9	3.2	1050	1.43	853	.00	.00

DATE	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM DIS-SOLVED (UG/L AS CD)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)
MAR 14...	1.6	1.60	1.4	1.8	.040	.020	1	1	10	0	4
JUN 18...	1.6	1.10	1.1	1.7	.080	.040	2	2	9	0	3
AUG 19...	2.2	--	2.0	--	.050	.040	2	2	5	0	3
SEP 19...	.76	.99	.76	.99	.030	.010	1	1	1	0	4

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAR											
14...	0	3	4	3	0	.0	.0	3	4	20	40
JUN											
18...	0	6	2	3	0	.2	.2	9	8	20	4
AUG											
19...	0	7	11	5	3	.0	.0	6	5	30	40
SEP											
19...	0	4	2	0	0	.0	.0	6	2	20	20

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										---	1300	1400
2										---	---	1300
3										---	---	1420
4										---	1320	1350
5										---	1320	---
6										---	1320	---
7										---	---	---
8										---	1200	---
9										---	---	1300
10										---	---	1390
11										---	1300	1500
12										---	1320	1500
13										---	1220	---
14										---	---	---
15										---	1300	1450
16										---	---	1500
17										---	---	1550
18										---	1320	1510
19										---	1300	1500
20										---	1400	---
21										---	1400	---
22										---	1300	1550
23										1150	---	1620
24										1250	---	---
25										1200	1320	1550
26										---	1320	---
27										---	1320	---
28										1200	1280	---
29										1250	1300	---
30										1300	---	1450
31										1300	---	---

07130500 ARKANSAS RIVER BELOW JOHN MARTIN RESERVOIR, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	---	---	24.0	25.0	---
2							---	---	15.0	24.0	---	22.0
3							---	---	17.0	24.0	---	24.0
4							---	---	17.0	---	24.0	22.0
5							---	---	17.0	---	25.0	21.0
6							---	---	18.0	---	24.0	---
7							---	---	---	24.0	25.0	---
8							---	---	---	24.0	25.0	22.0
9							---	---	19.0	24.0	---	20.0
10							---	---	19.0	24.0	---	19.0
11							---	---	19.0	24.0	25.0	20.0
12							---	13.0	20.0	---	24.0	20.0
13							---	13.0	20.0	---	24.0	---
14							---	13.0	---	24.0	24.0	---
15							---	14.0	---	24.0	24.0	19.0
16							---	14.0	20.0	24.0	---	19.0
17							---	---	20.0	27.0	---	18.0
18							---	---	20.0	24.0	23.0	19.0
19							---	14.0	20.0	---	24.0	19.0
20							---	14.0	21.0	---	23.0	---
21							---	14.0	---	25.0	23.0	---
22							12.0	14.0	---	---	23.0	19.0
23							12.0	14.0	23.0	26.0	---	17.0
24							---	---	22.0	24.0	---	---
25							---	---	22.0	25.0	24.0	17.0
26							---	---	23.0	---	22.0	10.0
27							---	15.0	23.0	---	22.0	---
28							12.0	15.0	---	24.0	22.0	---
29							12.0	14.0	---	25.0	22.0	---
30							12.0	15.0	24.0	24.0	---	17.0
31							---	---	---	24.0	---	---

07133000 ARKANSAS RIVER AT LAMAR, CO

LOCATION.--Lat 38°06'21", long 102°37'05", in NE¼SE¼ (revised) sec.30, T.22 S., R.46 W., Prowers County, Hydrologic Unit 11020009, on left bank at downstream side of bridge on U.S. Highways 50 and 287, and 1.3 mi (2.1 km) north of courthouse in Lamar.

DRAINAGE AREA.--19,780 mi^2 (51,230 km^2), of which 950 mi^2 (2,460 km^2) is probably noncontributing.

PERIOD OF RECORD.--May 1913 to September 1955, April 1959 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: 1921(M), 1945-46(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,602.23 ft (1,097.960 m), National Geodetic Vertical Datum of 1929. See WSP 1731 for history of changes prior to Apr. 4, 1959. Apr. 4, 1959, to Mar. 26, 1968, at site 450 ft (140 m) upstream at datum 2.42 ft (0.738 m) lower.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Flow regulated by John Martin Dam (station 07130000) 21 mi (34 km) upstream since Oct. 1948. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation of about 487,000 acres (1,970 km^2), and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--30 years (water years 1914-43), 298 ft^3/s (8.439 m^3/s), 215,900 acre-ft/yr (266 hm^3/yr), prior to and during construction of John Martin Dam, 28 years (water years 1949-55, 1960-80), 88.4 ft^3/s (2.503 m^3/s), unadjusted 64,050 acre-ft/yr (79.0 hm^3/yr), subsequent to completion of John Martin Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 130,000 ft^3/s (3,680 m^3/s) June 5, 1921, gage height, 14.55 ft (4.435 m), present datum, from rating curve extended above 10,000 ft^3/s (280 m^3/s); maximum gage height, 16.48 ft (5.023 m) June 18, 1965, present datum, from floodmarks; no flow at times in 1913-15, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,130 ft^3/s (32.0 m^3/s) at 2400 June 25, gage height, 5.04 ft (1.536 m); minimum daily, 7.2 ft^3/s (0.20 m^3/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	11	15	18	11	12	40	650	69	930	935	57
2	9.2	8.2	16	20	13	17	45	40	65	900	904	70
3	9.7	9.0	16	20	16	14	40	40	71	890	880	59
4	10	11	16	18	18	13	33	48	67	890	863	60
5	12	15	14	18	20	11	32	48	67	900	857	58
6	10	20	13	18	20	11	27	48	76	900	850	53
7	13	26	17	17	19	9.8	24	40	78	900	887	49
8	14	29	19	15	17	9.4	27	37	88	900	865	48
9	14	29	17	15	17	7.8	26	38	116	950	796	49
10	17	33	22	15	19	7.8	18	25	642	1000	392	51
11	17	36	20	16	19	7.4	19	36	710	1000	354	49
12	14	30	18	17	19	7.4	16	30	714	1000	245	47
13	19	20	16	17	16	8.2	17	51	770	1000	143	46
14	19	7.7	16	17	16	8.0	19	49	782	980	88	47
15	15	12	16	17	15	8.0	14	48	785	960	83	47
16	16	15	17	17	15	8.0	12	59	785	960	80	47
17	17	18	17	18	17	8.0	12	48	727	960	78	47
18	18	19	17	19	17	8.0	11	45	841	957	78	47
19	18	16	18	19	17	7.8	11	41	879	964	77	47
20	14	31	20	19	15	7.4	14	34	859	931	63	45
21	14	17	20	19	15	8.2	89	26	849	945	62	45
22	17	17	20	19	13	7.8	520	26	891	932	62	43
23	11	17	20	19	12	10	596	19	841	926	63	43
24	9.2	17	20	19	12	17	796	12	875	947	62	46
25	11	18	19	19	11	20	300	8.3	897	967	61	43
26	18	18	17	16	12	18	138	8.2	946	989	63	42
27	18	17	17	13	11	17	99	8.4	896	979	62	39
28	22	15	16	9.0	11	17	81	35	928	976	61	37
29	18	15	15	8.0	10	18	250	36	950	962	61	37
30	22	15	15	8.0	---	25	700	33	950	989	60	38
31	19	---	15	10	---	35	---	65	---	974	58	---
TOTAL	462.3	561.9	534	509.0	443	384.0	4026	1731.9	18214	29458	10193	1434
MEAN	14.9	18.7	17.2	16.4	15.3	12.4	134	55.9	607	950	329	47.8
MAX	22	36	22	20	20	35	796	650	950	1000	935	70
MIN	7.2	7.7	13	8.0	10	7.4	11	8.2	65	890	58	37
AC-FT	917	1110	1060	1010	879	762	7990	3440	36130	58430	20220	2840

CAL YR 1979 TOTAL 16856.76 MEAN 46.2 MAX 788 MIN .20 AC-FT 33440
WTR YR 1980 TOTAL 67951.10 MEAN 186 MAX 1000 MIN 7.2 AC-FT 134800

NOTE.--NO GAGE-HEIGHT RECORD DEC. 11 TO FEB. 11.

07134100 BIG SANDY CREEK NEAR LAMAR, CO

LOCATION.--Lat 38°06'51", long 102°29'00", in SW¼SW¼ sec.21, T.22 S., R.45 W., Prowers County, Hydrologic Unit 11020009, on left bank 15 ft (5 m) upstream from State Highway 196, 950 ft (290 m) upstream from mouth, and 7.5 mi (12.1 km) east of Lamar.

DRAINAGE AREA.--3,248 mi^2 (8,412 km^2).

PERIOD OF RECORD.--February 1968 to current year.

REVISED RECORDS.--WRD Colo. 1971: Drainage area.

GAGE.--Water-stage recorder and culvert control. Altitude of gage is 3,545 ft (1,080 m), from topographic map. Prior to June 30, 1977, at datum 1.00 ft (0.305 m) lower.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by diversions above station for irrigation and return flow from irrigated areas. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--12 years, 11.9 ft^3/s (0.337 m^3/s), 8,620 acre-ft/yr (10.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,520 ft^3/s (71.4 m^3/s) Sept. 16, 1976, gage height, 8.48 ft (2.585 m), on basis of measurement of peak flow through culvert and over road; no flow Aug. 13-18, Sept. 1-15, 1976, Sept. 14-30, 1977, many days 1978, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 21, 1965, reached a stage of 9.93 ft (3.027 m) from floodmarks, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 304 ft^3/s (8.61 m^3/s) at 0400 Apr. 25, gage height, 4.78 ft (1.457 m); minimum daily, 0.12 ft^3/s (0.003 m^3/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	1.2	5.1	5.0	9.0	11	24	121	5.5	3.9	17	3.5
2	.12	1.2	5.8	5.3	13	13	33	112	5.9	8.4	15	3.6
3	.45	1.2	3.5	6.6	12	13	36	79	6.4	9.4	14	4.1
4	.86	1.2	3.4	7.7	15	13	30	65	6.6	8.4	12	4.3
5	1.2	1.2	3.1	9.9	18	12	24	32	4.8	7.8	11	4.3
6	.98	1.2	2.9	7.9	25	12	24	38	4.3	8.4	9.5	4.5
7	1.4	1.2	2.9	7.0	19	13	23	21	6.3	9.6	11	3.9
8	1.4	.95	2.9	7.0	14	13	22	18	5.1	8.2	9.7	3.4
9	1.6	.95	2.8	7.0	14	12	21	18	5.0	8.2	12	2.9
10	1.6	.95	2.9	9.0	14	12	27	16	5.1	9.4	3.3	2.8
11	1.4	.95	3.1	11	17	11	32	15	5.2	7.3	1.4	2.8
12	1.6	.95	3.9	9.8	16	11	23	14	4.3	5.7	1.3	2.9
13	1.1	2.0	6.6	9.1	16	10	21	12	4.1	8.6	2.3	2.9
14	1.7	3.4	5.6	9.5	15	10	20	12	4.8	10	2.3	2.9
15	1.4	4.6	3.7	9.5	12	9.7	19	12	4.7	9.8	4.1	2.8
16	.68	5.0	3.5	10	14	9.3	19	20	6.1	10	6.1	2.6
17	.85	4.5	7.2	11	13	8.1	18	20	5.7	12	4.2	2.6
18	.29	3.9	5.4	11	16	7.9	18	17	5.4	14	3.6	2.8
19	.37	3.5	4.9	9.5	17	7.5	15	14	5.4	18	4.5	3.1
20	.45	3.2	5.0	10	16	7.4	13	14	7.8	14	4.5	4.0
21	.44	3.2	8.5	10	16	6.6	11	13	5.3	14	4.4	2.2
22	.69	7.2	5.6	9.8	16	6.4	11	12	4.2	14	5.3	2.3
23	.95	7.1	5.2	12	17	6.4	13	12	5.9	14	4.9	2.3
24	.94	5.1	5.8	11	15	6.4	62	11	6.2	12	4.1	2.9
25	1.2	3.9	4.7	10	16	8.7	237	10	7.2	14	5.0	6.6
26	1.2	3.5	4.6	7.2	17	11	87	8.9	7.4	16	6.1	7.0
27	1.3	3.5	4.6	7.0	15	20	60	8.9	5.2	16	7.3	7.4
28	1.2	7.3	4.3	7.0	12	19	56	8.9	4.8	17	6.2	7.4
29	1.2	10	4.5	7.0	11	19	55	9.4	5.7	14	5.3	7.4
30	1.2	5.1	4.5	7.0	---	19	57	8.2	5.7	14	4.1	7.4
31	1.2	---	4.5	8.0	---	20	---	6.1	---	18	3.5	---
TOTAL	31.17	99.15	141.0	268.8	440.0	358.4	1111	778.4	166.1	354.1	205.0	119.6
MEAN	1.01	3.31	4.55	8.67	15.2	11.6	37.0	25.1	5.54	11.4	6.61	3.99
MAX	1.7	10	8.5	12	25	20	237	121	7.8	18	17	7.4
MIN	.12	.95	2.8	5.0	9.0	6.4	11	6.1	4.1	3.9	1.3	2.2
AC-FT	62	197	280	533	873	711	2200	1540	329	702	407	237

CAL YR 1979 TOTAL 1043.26 MEAN 2.86 MAX 139 MIN .00 AC-FT 2070
WTR YR 1980 TOTAL 4072.72 MEAN 11.1 MAX 237 MIN .12 AC-FT 8080

07137000 FRONTIER DITCH NEAR COOLIDGE. KS

LOCATION.--Lat 38°02'18". long 102°02'19". in NE¼ sec.21. T.23 S.. R.43 W.. Hamilton County. Kans.. Hydrologic Unit 11030001. on left bank 0.3 mi (0.5 km) east of Colorado-Kansas State line. 0.5 mi (0.8 km) downstream from Holly drain diversion. 1.5 mi (2.4 km) west of Coolidge. and 2.3 mi (3.7 km) downstream from diversion from Arkansas River.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1731: 1951.

GAGE.--Water-stage recorders and Parshall flume. Datum of gage is 3.353.14 ft (1.022.037 m). National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. This ditch diverts water from Arkansas River in Colorado for use in Kansas. These records and records for Arkansas River near Coolidge (station 07137500) represent total flow of Arkansas River at the Colorado-Kansas State line.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge. 84 ft³/s (2.38 m³/s) Aug. 1. 1975; no flow for many days each year.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	2.8	.00	.00	.00	.00	.00	.00	9.2	37	44	28
2	5.2	3.5	.00	.00	.00	.00	.00	.00	7.7	37	43	31
3	3.7	3.2	.00	.00	.00	.00	.00	.00	7.5	40	42	36
4	3.3	2.6	.00	.00	.00	.00	.00	.00	2.5	29	47	38
5	3.3	2.5	.00	.00	.00	.00	.00	.00	6.4	31	55	34
6	3.2	1.7	.00	.00	.00	.00	.00	.00	31	33	65	35
7	2.6	1.6	.00	.00	.00	.00	.00	16	31	33	65	32
8	2.1	1.1	.00	.00	.00	.00	.00	26	30	38	66	30
9	2.3	.42	.00	.00	.00	.00	.00	18	33	50	66	26
10	2.8	.21	.00	.00	.00	.00	.00	17	47	41	48	27
11	3.0	.07	.00	.00	.00	.00	.00	16	69	39	43	31
12	3.0	.00	.00	.00	.00	.00	.00	15	58	38	45	29
13	3.9	.00	.00	.00	.00	.00	.00	14	46	38	42	26
14	3.7	.00	.00	.00	.00	.00	.00	18	33	38	43	27
15	3.5	.00	.00	.00	.00	.00	.00	24	43	39	41	39
16	3.0	.00	.00	.00	.00	.00	.00	20	43	39	29	29
17	3.5	.00	.00	.00	.00	.00	.00	22	51	39	21	27
18	5.8	.00	.00	.00	.00	.00	.00	20	43	41	15	26
19	5.6	.00	.00	.00	.00	.00	.00	19	37	48	14	25
20	4.8	.00	.00	.00	.00	.00	.00	18	38	55	17	24
21	4.1	.00	.00	.00	.00	.00	.00	16	37	60	18	22
22	5.0	.00	.00	.00	.00	.00	.00	17	37	61	23	21
23	4.8	.00	.00	.00	.00	.00	.00	16	36	59	26	20
24	4.3	.00	.00	.00	.00	.00	.00	16	36	57	18	20
25	2.8	.00	.00	.00	.00	.00	.00	14	35	56	6.8	21
26	2.6	.00	.00	.00	.00	.00	.00	12	34	52	9.0	22
27	2.5	.00	.00	.00	.00	.00	.00	11	35	43	23	36
28	2.3	.00	.00	.00	.00	.00	.00	19	39	42	36	34
29	2.1	.00	.00	.00	.00	.00	.00	9.6	41	40	34	28
30	2.3	.00	.00	.00	---	.00	.00	12	42	40	31	13
31	3.3	---	.00	.00	---	.00	---	10	---	43	29	---
TOTAL	110.5	19.70	.00	.00	.00	.00	.00	415.60	1038.3	1336	1104.8	837
MEAN	3.56	.66	.000	.000	.000	.000	.000	13.4	34.6	43.1	35.6	27.9
MAX	6.1	3.5	.00	.00	.00	.00	.00	26	69	61	66	39
MIN	2.1	.00	.00	.00	.00	.00	.00	.00	2.5	29	6.8	13
AC-FT	219	39	.00	.00	.00	.00	.00	824	2060	2650	2190	1660

CAL YR 1979 TOTAL 2709.70 MEAN 7.48 MAX 57 MIN .00 AC-FT 5870
WTR YR 1980 TOTAL 4861.90 MEAN 13.3 MAX 69 MIN .00 AC-FT 9640

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS

LOCATION.--Lat 38°01'34", long 102°00'41", in NE¼NW¼ sec.26, T.23 S., R.43 W., Hamilton County, KS, Hydrologic Unit 11030001, on right bank at downstream side of bridge, 1.0 mi (1.6 km) south of Coolidge, and 1.9 mi (3.1 km) downstream from Colorado-Kansas State line.

DRAINAGE AREA.--25,410 mi² (65,812 km²), of which 1,708 mi² (4,424 km²) is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to Ocober 1903, March to May 1921, October 1950 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1341: 1903, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,330.84 ft (1,015.240 m), National Geodetic Vertical Datum of 1929. May 5 to Oct. 31, 1903, nonrecording gage, and Mar. 1 to May 31, 1921, water-stage recorder at present site at different datums. Oct. 1, 1950, to Mar. 31, 1966, water-stage recorder at site 0.3 mi (0.5 km) upstream at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Combined flow of river and Frontier ditch (station 07137000) represents entire flow that enters Kansas. Flow regulated by John Martin Reservoir (station 07130000) since Oct. 1948. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation of about 500,000 acres (2,020 km²), and return flow from irrigated areas.

AVERAGE DISCHARGE.--30 years (water years 1951-80), 182 ft³/s (5.154 m³/s), 131,900 acre-ft/yr (163 hm³/yr), subsequent to completion of John Martin Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 158,000 ft³/s (4,470 m³/s) June 17, 1965, gage height, 14.8 ft (4.51 m), present site and datum, from floodmarks, from rating curve extended above 13,000 ft³/s (370 m³/s), on basis of slope-area measurement of peak flow; no flow for many days in 1903, 1954, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 907 ft³/s (25.7 m³/s) Apr. 25, gage height, 4.62 ft (1.408 m); minimum daily, 0.60 ft³/s (0.017 m³/s) Oct. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	5.9	4.0	5.0	15	23	70	628	50	694	765	40
2	2.0	3.7	4.0	4.9	17	23	74	716	53	690	765	34
3	3.4	2.6	5.0	4.8	21	40	86	449	45	741	756	22
4	5.4	2.4	6.5	5.2	28	39	93	307	47	746	741	16
5	5.4	3.1	5.9	5.2	40	39	87	259	40	746	718	13
6	4.9	2.0	5.9	5.0	38	39	87	210	28	718	681	14
7	5.4	1.8	5.9	4.6	37	35	84	187	24	732	658	11
8	7.7	2.8	4.9	4.2	28	36	80	154	21	736	649	9.8
9	4.1	5.4	5.4	5.5	21	35	77	160	21	741	667	9.8
10	1.6	4.5	6.5	7.0	30	34	74	152	34	741	616	11
11	1.3	7.7	7.7	8.0	43	35	75	138	183	727	392	7.7
12	1.1	8.4	9.1	9.0	46	38	71	120	294	699	335	5.9
13	1.3	8.4	7.6	11	40	35	63	105	370	690	270	5.9
14	1.4	9.1	5.6	14	41	34	62	98	415	690	207	5.4
15	1.3	9.1	5.0	12	45	34	66	115	473	708	192	7.7
16	1.4	5.9	5.0	22	37	33	67	117	504	718	468	7.1
17	1.1	5.9	5.0	21	44	32	64	124	531	713	195	7.7
18	.80	6.5	5.0	27	40	31	60	112	511	694	162	15
19	.70	6.5	5.0	30	39	30	58	103	584	713	138	14
20	.60	7.1	5.4	35	41	27	56	100	690	741	122	14
21	.90	7.1	5.9	30	40	25	47	89	704	746	110	11
22	1.1	8.4	4.9	30	38	25	54	84	722	722	105	9.8
23	.80	8.4	4.9	28	39	26	286	82	713	713	96	9.8
24	.70	5.4	4.9	29	41	30	467	80	732	722	82	7.1
25	1.3	4.1	4.5	30	38	30	742	74	722	732	78	11
26	3.4	4.0	4.9	19	37	32	506	68	727	736	90	16
27	2.0	4.0	7.7	16	37	41	285	63	732	765	80	8.4
28	2.4	5.0	7.7	15	36	40	227	63	690	770	70	7.1
29	3.4	4.0	5.4	15	35	41	187	53	685	780	60	11
30	4.5	4.0	5.4	15	---	44	440	53	699	736	51	24
31	8.4	---	5.2	15	---	49	---	47	---	746	44	---
TOTAL	80.50	163.2	175.8	482.4	1032	1055	4695	5110	12044	22546	10363	386.2
MEAN	2.60	5.44	5.67	15.6	35.6	34.0	157	165	401	727	334	12.9
MAX	8.4	9.1	9.1	35	46	49	742	716	732	780	765	40
MIN	.60	1.8	4.0	4.2	15	23	47	47	21	690	44	5.4
AC-FT	160	324	349	957	2050	2090	9310	10140	23890	44720	20560	766

CAL YR 1979 TOTAL 7429.60 MEAN 20.4 MAX 503 MIN .60 AC-FT 14740
WTR YR 1980 TOTAL 58133.10 MEAN 159 MAX 780 MIN .60 AC-FT 115300

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1963 to September 1968, October 1969 to September 1973, April 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1963 to September 1968, January 1976 to current year.
WATER TEMPERATURES: November 1963 to September 1968, January 1976 to current year.

INSTRUMENTATION.--Water-quality monitor since January 1976.

REMARKS.--Daily maximum and minimum specific-conductance data available in district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 6,900 micromhos Mar. 29, 1978; minimum daily, 454 micromhos June 18, 1965.
WATER TEMPERATURES: Maximum, 34.0°C July 9, 1967; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 5,690 micromhos Nov. 1; minimum daily, 1,090 micromhos May 31.
WATER TEMPERATURES: Maximum daily, 28.0°C July 15; minimum daily, 0.0°C on several days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	NITROGEN, TOTAL (MG/L AS N)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
OCT												
24...	1330	.88	4300	8.3	17.0	17	10.5	--	26	46	--	--
NOV												
27...	1300	7.7	4900	8.2	7.0	18	11.8	2.7	1	130	1800	1600
DEC												
27...	1230	6.3	4300	8.0	3.0	18	12.0	2.0	K9	140	1500	1300
JAN												
24...	1130	22	4600	8.3	3.0	78	12.2	--	K11	120	1600	1400
FEB												
25...	1300	39	4400	8.1	7.0	60	10.5	2.4	K1	110	1700	1500
MAR												
18...	1400	32	3200	8.2	12.0	34	10.1	2.4	K11	83	1900	1600
APR												
17...	1410	63	4200	8.4	16.0	42	9.9	2.1	24	520	1700	1500
MAY												
21...	1300	88	3700	8.3	20.5	45	8.7	1.7	80	383	1400	1100
JUN												
26...	1100	722	1600	7.9	22.0	110	7.9	1.5	--	820	680	530
JUL												
18...	1150	722	1540	8.1	23.0	40	--	1.5	--	--	560	400
SEP												
16...	1130	7.8	3600	8.1	15.0	2.2	10.7	1.1	150	190	1400	1400

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
OCT												
24...	--	--	--	--	--	270	0		--	--	--	--
NOV												
27...	420	190	690	7.0	12	310	0		2600	210	.7	13
DEC												
27...	330	170	610	6.8	11	--	--		2100	210	.7	14
JAN												
24...	310	210	570	6.1	9.4	340	0		2300	180	.8	17
FEB												
25...	350	210	600	6.3	10	--	--		2500	180	.9	16
MAR												
18...	380	220	600	6.1	11	340	0		2500	180	.7	12
APR												
17...	370	200	610	6.4	11	290	0		2600	170	1.1	8.9
MAY												
21...	260	170	530	6.3	12	--	--		2100	150	.2	5.1
JUN												
26...	160	67	170	2.8	7.1	180	0		700	49	1.0	8.7
JUL												
18...	130	57	150	2.8	6.7	--	--		660	46	.8	6.0
SEP												
16...	320	150	460	5.3	12	--	--	--	2000	160	.1	.1

K BASED ON NON-IDEAL COLONY COUNT.

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT 24...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 27...	4460	4290	6.07	92.7	1.0	1.2	.120	.480	.73	1.0	.85	1.5
DEC 27...	4360	3590	5.93	74.2	.99	1.0	--	.090	--	.90	--	.99
JAN 24...	4270	3740	5.81	263	--	--	--	--	--	--	--	--
FEB 25...	4260	4020	5.79	449	1.7	1.7	.110	.090	.89	.57	1.00	.66
MAR 18...	4400	4050	5.98	387	1.9	1.8	.180	.170	.82	.43	1.00	.60
APR 17...	4340	4100	5.90	738	1.1	1.3	.130	.060	1.2	.77	1.30	.83
MAY 21...	3770	3360	5.13	902	.85	.89	.110	.070	.63	.69	.74	.76
JUN 26...	1380	1250	1.88	2690	.72	.42	.090	.070	1.3	1.0	1.40	1.1
JUL 18...	1280	1160	1.74	2500	.67	.68	.060	.050	1.2	.81	1.30	.86
SEP 16...	7350	3113	10.0	156	.59	.59	.070	.080	.93	.45	1.00	.53

DATE	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M	PERI-PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	BIOMASS CHLORO-PHYLL RATIO PERI-PHYTON (UNITS)	CHLOR-A PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI-PHYTON CHROMO-GRAPHIC FLUOROM (MG/M2)
OCT 24...	--	--	--	--	--	--	--	--	--	--	--
NOV 27...	1.9	.010	.000	14	.4	1200	--	--	--	--	--
DEC 27...	--	.020	.000	5.7	--	--	--	--	--	--	--
JAN 24...	--	--	--	--	--	--	--	--	--	--	--
FEB 25...	2.7	.100	.020	9.7	--	2800	--	--	--	--	--
MAR 18...	2.9	.050	.010	8.5	--	--	--	--	--	--	--
APR 17...	2.4	.080	.010	12	--	--	--	--	--	--	--
MAY 21...	1.6	.100	.030	--	1.0	2200	.079	.236	506	.310	.000
JUN 26...	2.1	.150	.020	8.7	--	--	--	--	--	--	--
JUL 18...	2.0	.140	.030	9.1	--	1100	--	--	--	--	--
SEP 16...	1.6	.030	.010	5.9	--	--	--	--	--	--	--

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)
NOV 27...	0	0	400	200	--	1	0	0	--	2
FEB 25...	1	1	200	200	2	0	10	10	2	0
MAY 21...	2	1	100	100	1	1	0	0	3	0
JUN 26...	--	--	--	--	--	--	--	--	--	--
JUL 18...	--	--	--	--	--	--	--	--	--	--
SEP 16...	--	--	--	--	--	--	--	--	--	--

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
NOV 27...	--	0	580	20	--	0	190	180	.1
FEB 25...	12	0	1700	70	4	9	120	40	.1
MAY 21...	7	2	850	30	5	2	50	20	.2
JUN 26...	--	--	--	--	--	--	--	--	--
JUL 18...	--	--	--	--	--	--	--	--	--
SEP 16...	--	--	--	--	--	--	--	--	--

DATE	MERCURY DISSOLVED (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
NOV 27...	.0	--	1	16	25	--	0	10	10
FEB 25...	.0	15	1	30	30	0	0	2600	10
MAY 21...	.0	10	0	21	20	0	0	40	10
JUN 26...	--	--	--	--	--	0	--	--	--
JUL 18...	--	--	--	--	--	0	--	--	--
SEP 16...	--	--	--	--	--	0	--	--	--

DATE	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	AROCLOR TOTAL 1254 PCB SERIES (UG/L)	CHLORDANE, TOTAL (UG/L)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 27...	ND	ND	ND	ND	--	ND	ND	ND	ND	ND	ND
FEB 25...	ND	--	ND	--	--	ND	--	ND	--	ND	--
MAY 21...	--	--	ND	--	.0	ND	--	ND	--	ND	--
AUG 25...	--	--	ND	--	.1	ND	--	ND	--	ND	--

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)
NOV 27...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 25...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 21...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
AUG 25...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HEPTA-CHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALA-THION, TOTAL (UG/L)	MALA-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METH-OXY-CHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)
NOV											
27...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB											
25...	--	ND	--	ND	--	ND	--	--	ND	ND	--
MAY											
21...	--	ND	--	ND	--	ND	--	--	ND	ND	--
AUG											
25...	--	ND	--	ND	--	ND	--	--	ND	ND	--

DATE	METHYL TRI-THION, TOTAL (UG/L)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	PARA-THION, TOTAL (UG/L)	PARA-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOX-APHENE, TOTAL (UG/L)	TOXA-PHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRI-THION (UG/L)	TRI-THION, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV											
27...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB											
25...	ND	--	ND	--	ND	--	ND	--	--	--	--
MAY											
21...	ND	--	ND	--	ND	--	ND	--	--	--	--
AUG											
25...	ND	--	ND	--	ND	--	ND	--	--	--	--

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 27,79	FEB 25,80	MAY 21,80	JUN 26,80
TIME	1300	1300	1300	1100
TOTAL CELLS/ML	1200	2800	2200	1200
DIVERSITY: DIVISION	0.7	1.2	0.1	1.1
.CLASS	0.7	1.2	0.1	1.1
..ORDER	1.0	1.8	0.7	1.6
...FAMILY	2.3	2.2	1.6	2.1
....GENUS	2.8	2.5	1.9	2.4

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
.CHLOROPHYCEAE								
..CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	16	1	--	-
....OOCYSTIS	--	-	--	-	--	-	26	2
....SELENASTRUM	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
....SCENEDESMUS	40	3	94	3	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
.BACILLARIOPHYCEAE								
..CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	69	6	340	12	380#	18	91	7
....STEPHANODISCUS	--	-	--	-	--	-	170	14
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	40	3	--	-	16	1	--	-
...DIATOMACEAE								
....DIATOMA	20	2	--	-	--	-	--	-
....OPEPHORA	120	10	--	-	--	-	--	-
...FRAGILARIACEAE								
....FRAGILARIA	--	-	--	-	--	-	52	4
....SYNEDRA	--	-	--	-	--	-	39	3
...NAVICULACEAE								
....ENTOMONEIS	--	-	--	-	300	14	--	-
....GYROSIGMA	--	-	--	-	16	1	--	-
....NAVICULA	250#	21	390	14	340#	15	78	6
....PLAGIOTROPIS	250#	21	--	-	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	260#	22	480#	17	1100#	51	260#	21
...SURIRELLACEAE								
....SURIRELLA	--	-	67	2	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
.CRYPTOPHYCEAE								
..CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	130	5	--	-	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	1100#	40	--	-	520#	42
....SCHIZOTHRIX	130	11	190	7	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	*	0	--	-	--	-

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

07137500 ARKANSAS RIVER NEAR COOLIDGE, KS--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	JUL 18,80	AUG 25,80	SEP 16,80
TIME	1150	1300	1100
TOTAL CELLS/ML	1100	3200	5200
DIVERSITY: DIVISION	1.1	1.4	1.1
.CLASS	1.1	1.4	1.1
..ORDER	1.7	2.2	1.3
...FAMILY	2.7	2.6	1.6
....GENUS	2.9	2.6	1.6

ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)						
.CHLOROPHYCEAE						
..CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	13	1	64	2	--	-
...COELASTRACEAE						
....COELASTRUM	300#	27	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	26	1	*	0
....OOCYSTIS	26	2	--	-	--	-
....SELENASTRUM	--	-	--	-	*	0
...SCENEDESMACEAE						
....ACTINASTRUM	100	9	--	-	--	-
....SCENEDESMUS	77	7	77	2	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	26	2	64	2	100	2
CHRYSOPHYTA						
.BACILLARIOPHYCEAE						
..CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	170#	15	360	11	140	3
....STEPHANODISCUS	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
....OPEPHORA	--	-	--	-	--	-
...FRAGILARIACEAE						
....FRAGILARIA	26	2	--	-	--	-
....SYNEDRA	--	-	--	-	--	-
...NAVICULACEAE						
....ENTOMONEIS	--	-	--	-	--	-
....GYROSIGMA	--	-	--	-	--	-
....NAVICULA	170#	15	260	8	500	10
....PLAGIOTROPIS	--	-	--	-	--	-
...NITZSCHIACEAE						
....NITZSCHIA	180#	16	770#	24	1300#	25
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
.CRYPTOPHYCEAE						
..CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	*	0
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	*	0	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	--	-	490#	15	--	-
..HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	1100#	34	3100#	59
....SCHIZOTHRIX	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	13	1	*	0	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

08213500 RIO GRANDE AT THIRTYMILE BRIDGE, NEAR CREEDE, CO

LOCATION.--Lat 37°43'29", long 107°15'18", in NE¼ sec.13, T.40 N., R.4 W., Hinsdale County, Hydrologic Unit 13010001, on right bank 70 ft (21 m) downstream from bridge, 500 ft (150 m) upstream from Squaw Creek, 0.8 mi (1.3 km) downstream from Rio Grande Reservoir, and 20 mi (32 km) southwest of Creede.

DRAINAGE AREA.--163 mi² (422 km²).

PERIOD OF RECORD.--June 1909 to September 1923, May 1925 to current year. No winter records 1910, 1926. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 9,300 ft (2,835 m), from topographic map. See WSP 1712 or 1732 for history of changes prior to Oct. 1, 1934.

REMARKS.--Records good. Flow regulated by Rio Grande Reservoir, capacity, 51,110 acre-ft (63.0 hm³) since 1912. Natural flow of stream affected by transmountain diversions from Colorado River basin to drainage area above station through Weminuche Pass and Pine River-Weminuche Pass ditches (see elsewhere in this report). No known diversions above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--67 years (water years 1911-23, 1927-80), 212 ft³/s (6.004 m³/s), 153,600 acre-ft/yr (189 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft³/s (212 m³/s) June 28, 1927, gage height, 7.03 ft (2.143 m), present datum, from rating curve extended above 1,200 ft³/s (34 m³/s); minimum daily, 0.10 ft³/s (0.003 m³/s) Nov. 2-4, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,810 ft³/s (51.3 m³/s) at 0200 June 10, gage height, 4.01 ft (1.222 m); minimum daily, 21 ft³/s (0.59 m³/s) Nov. 23 to Apr. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	21	21	21	21	21	21	217	1730	930	722	177
2	40	21	21	21	21	21	21	197	1730	962	371	177
3	40	21	21	21	21	21	21	157	1700	1100	199	127
4	40	21	21	21	21	21	21	143	1690	1150	152	71
5	35	21	21	21	21	21	21	199	1740	1150	127	63
6	29	21	21	21	21	21	21	260	1760	1140	127	63
7	29	21	21	21	21	21	21	319	1750	988	121	76
8	29	21	21	21	21	21	21	385	1750	858	117	95
9	29	21	21	21	21	21	21	416	1760	834	117	97
10	29	21	21	21	21	21	21	449	1110	826	117	97
11	29	21	21	21	21	21	21	444	738	802	117	97
12	29	21	21	21	21	21	21	395	1100	730	100	97
13	29	21	21	21	21	21	21	332	1360	700	89	99
14	29	21	21	21	21	21	21	266	1370	778	84	99
15	29	21	21	21	21	21	21	223	1370	858	84	99
16	29	21	21	21	21	21	21	223	1220	842	84	117
17	29	21	21	21	21	21	21	223	1060	810	84	134
18	29	21	21	21	21	21	21	223	1020	770	84	134
19	29	21	21	21	21	21	21	223	1040	730	84	134
20	29	21	21	21	21	21	22	530	1050	818	84	134
21	29	21	21	21	21	21	22	786	1060	842	84	134
22	27	21	21	21	21	21	23	997	906	802	70	134
23	21	21	21	21	21	21	121	1160	997	794	64	134
24	21	21	21	21	21	21	160	1340	1110	794	64	134
25	21	21	21	21	21	21	94	1440	1230	826	64	134
26	21	21	21	21	21	21	94	1460	1290	834	80	134
27	21	21	21	21	21	21	94	1450	1300	826	106	134
28	21	21	21	21	21	21	92	1590	1300	810	134	134
29	21	21	21	21	21	21	117	1680	1240	770	154	134
30	21	21	21	21	---	21	185	1700	1030	746	177	134
31	21	---	21	21	---	21	---	1690	---	738	177	---
TOTAL	875	630	651	651	609	651	1423	21117	39511	26558	4238	3527
MEAN	28.2	21.0	21.0	21.0	21.0	21.0	47.4	681	1317	857	137	118
MAX	40	21	21	21	21	21	185	1700	1760	1150	722	177
MIN	21	21	21	21	21	21	21	143	738	700	64	63
AC-FT	1740	1250	1290	1290	1210	1290	2820	41890	78370	52680	8410	7000

CAL YR 1979 TOTAL 83263.6 MEAN 228 MAX 1440 MIN 5.0 AC-FT 165200
WTR YR 1980 TOTAL 100441.0 MEAN 274 MAX 1760 MIN 21 AC-FT 199200

NOTE.--NO GAGE-HEIGHT RECORD NOV. 6 TO APR. 6.

08214500 NORTH CLEAR CREEK BELOW CONTINENTAL RESERVOIR, CO

LOCATION.--Lat 37°53'18", long 107°12'10", in NE¼SW¼ sec.21, T.42 N., R.3 S., Hinsdale County, Hydrologic Unit 13010001, on left bank 100 ft (30 m) downstream from bridge, 1,000 ft (300 m) downstream from Continental Reservoir, and 15 mi (24 km) west of Creede.

DRAINAGE AREA.--51.7 mi² (134 km²).

PERIOD OF RECORD.--May 1929 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1960, published as Clear Creek below Continental Reservoir.

REVISED RECORDS.--WSP 1008: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 10,200 ft (3,109 m), from topographic map. Prior to Oct. 2, 1951, at site 150 ft (46 m) upstream at different datum.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Continental Reservoir, capacity, 26,720 acre-ft (32.9 hm³). No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--51 years, 30.1 ft³/s (0.852 m³/s), 21,810 acre-ft/yr (26.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 362 ft³/s (10.3 m³/s) May 8, 1952, gage height, 3.66 ft (1.116 m), from rating curve extended above 120 ft³/s (3.4 m³/s); no flow June 22, 23, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 322 ft³/s (9.12 m³/s) at 1100 July 8, gage height, 2.78 ft (0.847 m); minimum daily, 1.3 ft³/s (0.037 m³/s) Oct. 28-Nov. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	1.3	1.4	1.6	1.7	1.9	2.0	31	3.8	199	35	14
2	13	1.3	1.4	1.6	1.7	1.9	2.0	38	4.0	250	23	12
3	13	1.3	1.4	1.6	1.7	1.9	2.0	51	4.0	286	14	12
4	12	1.3	1.4	1.6	1.7	1.9	2.0	54	4.0	288	11	12
5	12	1.3	1.4	1.6	1.7	1.9	2.0	56	117	284	11	11
6	12	1.3	1.4	1.6	1.7	1.9	2.0	59	187	288	11	10
7	12	1.3	1.4	1.6	1.7	1.9	2.0	63	159	295	12	11
8	11	1.3	1.4	1.6	1.7	1.9	2.0	40	152	311	12	12
9	10	1.3	1.4	1.6	1.7	1.9	2.0	2.5	150	311	12	15
10	10	1.3	1.4	1.6	1.7	1.9	2.0	2.5	104	311	13	17
11	10	1.3	1.5	1.6	1.8	1.9	2.1	2.5	75	308	11	25
12	10	1.3	1.5	1.6	1.8	1.9	2.1	2.5	85	308	9.7	30
13	10	1.3	1.5	1.6	1.8	1.9	2.1	2.5	135	293	8.4	33
14	10	1.3	1.5	1.6	1.8	1.9	2.1	2.5	163	236	8.1	33
15	10	1.3	1.5	1.6	1.8	1.9	2.1	2.5	159	215	10	26
16	11	1.3	1.5	1.6	1.8	1.9	2.1	2.5	131	187	11	22
17	11	1.3	1.5	1.6	1.8	1.9	2.1	2.5	112	179	9.4	15
18	5.8	1.3	1.5	1.6	1.8	1.9	2.1	2.5	109	183	8.4	11
19	3.3	1.3	1.5	1.6	1.8	1.9	2.1	2.7	110	217	7.8	13
20	3.3	1.3	1.5	1.6	1.8	1.9	2.1	2.7	110	136	9.8	13
21	3.3	1.4	1.5	1.7	1.8	2.0	2.1	2.7	109	82	11	14
22	3.3	1.4	1.5	1.7	1.8	2.0	2.1	2.9	107	107	11	13
23	3.3	1.4	1.5	1.7	1.8	2.0	2.1	3.1	94	71	11	13
24	3.3	1.4	1.5	1.7	1.8	2.0	2.1	3.1	75	28	11	13
25	3.3	1.4	1.5	1.7	1.8	2.0	2.1	3.3	70	11	16	13
26	3.3	1.4	1.5	1.7	1.8	2.0	12	3.3	73	6.9	26	13
27	1.9	1.4	1.5	1.7	1.8	2.0	22	3.5	80	5.2	28	13
28	1.3	1.4	1.5	1.7	1.8	2.0	23	3.5	79	7.5	32	12
29	1.3	1.4	1.5	1.7	1.8	2.0	24	3.5	64	14	35	12
30	1.3	1.4	1.5	1.7	---	2.0	28	3.8	149	21	23	12
31	1.3	---	1.5	1.7	---	2.0	---	3.8	---	31	17	---
TOTAL	229.3	40.0	45.5	50.7	51.2	60.0	160.5	458.9	2973.8	5469.6	468.6	475
MEAN	7.40	1.33	1.47	1.64	1.77	1.94	5.35	14.8	99.1	176	15.1	15.8
MAX	13	1.4	1.5	1.7	1.8	2.0	28	63	187	311	35	33
MIN	1.3	1.3	1.4	1.6	1.7	1.9	2.0	2.5	3.8	5.2	7.8	10
AC-FT	455	79	90	101	102	119	318	910	5900	10850	929	942

CAL YR 1979 TOTAL 14913.1 MEAN 40.9 MAX 252 MIN 1.3 AC-FT 29580
WTR YR 1980 TOTAL 10483.1 MEAN 28.6 MAX 311 MIN 1.3 AC-FT 20790

NOTE.--NO GAGE-HEIGHT RECORD NOV. 6 TO APR. 25.

08216500 WILLOW CREEK AT CREEDE, CO

LOCATION.--Lat 37°51'22", long 106°55'37", in SE¼ sec.25, T.42 N., R.1 W. (projected), Mineral County, Hydrologic Unit 13010001, on left bank at north city limits of Creede, 8 ft (2 m) upstream from entrance to paved channel just downstream from Windy Gulch, 0.5 mi (0.8 km) downstream from confluence of East and West Willow Creeks, and 2.6 mi (4.2 km) upstream from mouth.

DRAINAGE AREA.--35.3 mi^2 (91.4 km^2).

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1712: 1955, 1956(M).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 8,880 ft (2,707 m), from topographic map. Prior to Sept. 2, 1953, at site 17 ft (5 m) upstream at present datum.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversions above station for municipal supply of Creede. Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--29 years, 22.0 ft^3/s (0.623 m^3/s), 15,940 acre-ft/yr (19.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 430 ft^3/s (12.2 m^3/s) June 5, 1957, gage height, 4.14 ft (1.262 m); maximum gage height, 4.16 ft (1.268 m) May 23, 1958; minimum daily discharge, 0.2 ft^3/s (0.006 m^3/s) Mar. 25, 1956, probably caused by snowslide upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 120 ft^3/s (3.4 m^3/s), and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 23	2100	149	4.22	2.91	0.887	June 9	1900	*261	7.39	3.60	1.097

Minimum daily discharge, 4.5 ft^3/s (0.127 m^3/s) Nov. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	5.0	4.8	4.7	5.2	5.0	5.8	23	122	53	17	8.9
2	9.5	6.3	5.0	4.7	5.2	4.9	6.0	22	123	51	16	9.4
3	9.0	6.5	5.0	4.7	5.2	4.8	6.0	24	140	46	16	8.0
4	8.8	6.5	5.1	4.7	5.2	4.8	6.5	28	155	41	15	7.9
5	7.8	6.3	5.1	4.7	5.2	4.8	6.5	30	174	39	15	8.6
6	7.8	6.4	5.1	4.7	5.2	4.8	6.5	36	183	38	16	11
7	7.8	7.0	5.1	4.7	5.2	4.8	6.5	46	171	39	15	14
8	7.8	6.5	5.1	4.7	5.2	4.8	6.5	49	178	38	15	9.6
9	7.4	6.2	5.1	4.7	5.2	4.8	6.5	47	196	32	14	13
10	7.4	5.9	5.1	4.7	5.3	4.8	6.5	49	188	31	13	18
11	7.0	5.5	5.0	4.7	5.3	4.8	7.0	47	198	31	13	20
12	7.0	5.9	5.0	4.7	5.3	4.8	7.5	40	186	29	13	16
13	7.0	5.3	5.0	4.7	5.3	4.8	8.0	37	175	28	14	15
14	7.0	5.7	5.0	4.7	5.3	4.8	9.0	35	161	28	15	14
15	7.0	5.7	5.0	4.7	5.3	4.8	10	35	144	26	20	14
16	6.5	5.4	5.0	4.8	5.3	4.8	11	35	136	25	14	12
17	6.2	5.3	5.0	4.8	5.3	4.8	12	35	126	25	13	13
18	6.5	5.4	5.0	4.8	5.2	4.8	14	36	119	25	13	13
19	6.5	5.6	5.0	4.8	5.2	4.8	15	42	113	24	13	12
20	6.9	6.1	5.0	4.8	5.1	4.8	16	59	104	22	13	12
21	8.4	4.7	4.8	4.9	5.0	4.8	19	83	98	21	13	12
22	6.4	5.3	4.7	4.9	5.0	4.8	22	107	92	22	12	12
23	7.8	5.7	4.7	4.9	5.0	4.8	23	123	81	22	20	12
24	7.8	5.0	4.7	5.0	5.0	4.8	20	120	82	22	18	11
25	7.8	5.0	4.7	5.2	5.0	4.9	18	96	78	21	14	9.6
26	7.6	5.0	4.7	5.2	5.0	5.2	16	85	74	19	13	10
27	7.0	4.7	4.7	5.2	5.0	5.4	17	85	70	17	12	10
28	6.1	4.7	4.7	5.2	5.0	5.4	19	91	62	17	12	10
29	7.5	4.5	4.7	5.2	5.0	5.5	22	102	56	17	11	10
30	6.5	4.6	4.7	5.2	---	5.5	24	111	54	17	10	9.6
31	4.7	---	4.7	5.2	---	5.5	---	118	---	16	9.8	---
TOTAL	228.3	167.7	152.3	150.6	149.7	152.9	372.8	1876	3839	882	437.8	355.6
MEAN	7.36	5.59	4.91	4.86	5.16	4.93	12.4	60.5	128	28.5	14.1	11.9
MAX	9.8	7.0	5.1	5.2	5.3	5.5	24	123	198	53	20	20
MIN	4.7	4.5	4.7	4.7	5.0	4.8	5.8	22	54	16	9.8	7.9
AC-FT	453	333	302	299	297	303	739	3720	7610	1750	868	705

CAL YR 1979 TOTAL 14522.6 MEAN 39.8 MAX 279 MIN 3.7 AC-FT 28810
WTR YR 1980 TOTAL 8764.7 MEAN 23.9 MAX 198 MIN 4.5 AC-FT 17380

NOTE.--NO GAGE-HEIGHT RECORD DEC. 1 TO APR. 22.

08217500 RIO GRANDE AT WAGONWHEEL GAP, CO

LOCATION.--Lat 37°46'01", long 106°49'51", in NW¼NE¼ sec.35, T.41 N., R.1 E., Mineral County, Hydrologic Unit 13010001, on right bank 250 ft (76 m) upstream from private bridge, 0.4 mi (0.6 km) upstream from Goose Creek, and 0.4 mi (0.6 km) west of town of Wagonwheel Gap.

DRAINAGE AREA.--780 mi^2 (2,020 km^2).

PERIOD OF RECORD.--May 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 8,431.26 ft (2,569.848 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period, which are poor. Flow regulated by Santa Maria, Rio Grande, and Continental Reservoirs, combined capacity, 121,400 acre-ft (150 hm^3). Diversions above station for irrigation. Transmountain diversions to drainage area above station from Colorado River basin (see elsewhere in this report). Several observations of specific conductance and water temperature were obtained and are published elsewhere in this report.

AVERAGE DISCHARGE.--29 years, 506 ft^3/s (14.33 m^3/s), 366,600 acre-ft/yr (452 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,870 ft^3/s (138 m^3/s) July 26, 1957, gage height, 5.38 ft (1.640 m); maximum gage height, 5.84 ft (1.780 m) Sept. 6, 1970; minimum daily discharge, 46 ft^3/s (1.30 m^3/s) Dec. 9, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,210 ft^3/s (119 m^3/s) at 0200 June 10, gage height, 5.41 ft (1.649 m); minimum daily, 90 ft^3/s (2.55 m^3/s) Mar. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	136	110	128	120	110	120	672	2880	1940	1010	370
2	190	131	120	120	120	110	122	635	2860	1940	831	365
3	181	145	120	118	120	110	124	611	2930	2000	508	350
4	178	162	120	118	120	105	124	639	3080	2040	448	290
5	186	142	130	115	120	100	133	703	3290	2030	370	238
6	182	146	150	115	120	100	137	818	3580	1980	360	235
7	171	160	160	115	115	100	126	992	3470	1930	350	262
8	164	154	160	115	115	100	118	1150	3510	1850	350	266
9	171	143	150	120	115	97	129	1160	3940	1780	350	294
10	156	137	140	120	116	90	145	1080	3680	1750	326	520
11	159	124	130	118	119	92	148	1120	2860	1720	322	842
12	160	124	120	120	120	106	134	1010	2880	1670	314	557
13	158	131	120	120	124	104	138	877	3150	1640	306	472
14	158	135	120	123	132	106	143	794	3000	1630	298	420
15	163	125	120	125	132	121	166	725	2790	1650	360	395
16	169	119	110	120	130	117	192	687	2630	1560	326	375
17	166	127	110	120	122	106	207	695	2520	1500	306	385
18	163	157	110	120	125	98	251	696	2490	1460	290	365
19	161	110	110	120	120	112	300	692	2460	1420	270	350
20	161	122	110	120	120	130	356	952	2380	1460	262	335
21	226	110	110	110	120	140	393	1540	2300	1370	250	326
22	193	110	110	110	115	138	461	2030	2180	1380	244	326
23	187	120	106	110	115	126	514	2370	2120	1280	318	322
24	181	130	108	110	115	125	585	2530	2240	1270	466	318
25	174	130	125	120	115	120	436	2420	2220	1260	370	314
26	170	130	118	130	120	128	425	2380	2270	1240	355	306
27	161	130	128	130	120	122	448	2360	2240	1180	375	306
28	160	120	118	130	120	127	520	2480	2150	1140	375	306
29	156	110	120	130	120	131	560	2720	2030	1100	395	306
30	160	110	120	120	---	121	637	2780	1890	1070	390	302
31	138	---	120	120	---	124	---	2860	---	1040	385	---
TOTAL	5299	3930	3803	3710	3485	3516	8292	43178	82020	48280	11880	10818
MEAN	171	131	123	120	120	113	276	1393	2734	1557	383	361
MAX	226	162	160	130	132	140	637	2860	3940	2040	1010	842
MIN	138	110	106	110	115	90	118	611	1890	1040	244	235
AC-FT	10510	7800	7540	7360	6910	6970	16450	85640	162700	95760	23560	21460

CAL YR 1979 TOTAL 285130 MEAN 781 MAX 4330 MIN 70 AC-FT 565600
WTR YR 1980 TOTAL 228211 MEAN 624 MAX 3940 MIN 90 AC-FT 452700

08218500 GOOSE CREEK AT WAGONWHEEL GAP, CO

LOCATION.--Lat 37°45'07", long 106°49'46", in SW¼SE¼ sec.35, T.41 N., R.1 E., Mineral County, Hydrologic Unit 13010001, on left bank 0.2 mi (0.3 km) downstream from Pierce Creek, 1.0 mi (1.6 km) upstream from mouth, 1.0 mi (1.6 km) south of Wagonwheel Gap, and 8.8 mi (14.2 km) southeast of Creede.

DRAINAGE AREA.--90 mi^2 (230 km^2), approximately.

PERIOD OF RECORD.--June 1954 to current year.

REVISED RECORDS.--WSP 1712: 1955, 1956(M).

GAGE.--Water-stage recorder. Altitude of gage is 8,460 ft (2,579 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. Several small diversions above station for irrigation. Lake Humphreys, capacity, 842 acre-ft (1.04 hm^3), with a fixed spillway and no gates has slight effect on flow. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--26 years, 59.6 ft^3/s (1.688 m^3/s), 43,180 acre-ft/yr (53.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 879 ft^3/s (24.9 m^3/s) Sept. 14, 1970, gage height, 4.52 ft (1.378 m), from recorded range in stage, from rating curve extended above 480 ft^3/s (14 m^3/s); minimum daily, 4.5 ft^3/s (0.13 m^3/s) Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1927 exceeded all other observed floods at this location, including those of October 1911 and June 18, 1949. Flood of October 1911 probably exceeded that of June 18, 1949, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 636 ft^3/s (18.0 m^3/s) at 2300 June 11, gage height, 4.14 ft (1.262 m), only peak above base of 200 ft^3/s (5.7 m^3/s); minimum daily, 15 ft^3/s (0.42 m^3/s) Nov. 15, 16, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	20	18	16	17	17	16	79	253	260	46	94
2	23	20	18	17	18	17	20	74	250	253	46	94
3	22	20	19	17	19	17	18	76	256	232	48	92
4	20	21	19	16	20	18	17	83	280	208	46	90
5	19	20	19	17	19	17	19	96	309	184	39	69
6	20	21	19	17	18	18	20	110	354	166	39	34
7	20	22	19	17	19	17	20	146	363	157	39	34
8	18	22	19	17	18	16	19	166	381	163	44	30
9	19	21	19	17	17	16	22	172	490	146	39	32
10	20	18	19	17	17	16	24	149	512	136	32	61
11	19	18	18	17	17	17	23	157	517	118	30	59
12	20	16	18	17	17	17	21	141	512	113	29	36
13	19	16	16	17	18	17	21	113	484	106	30	36
14	19	17	16	19	19	17	25	106	451	85	30	36
15	19	15	17	20	20	18	34	108	400	87	42	36
16	19	15	18	18	20	19	41	108	386	79	35	35
17	20	16	17	18	20	17	46	136	386	72	31	35
18	20	18	16	18	20	17	58	136	410	70	26	35
19	20	18	16	19	19	18	72	141	430	66	25	35
20	21	19	16	19	18	19	85	152	405	63	24	35
21	34	17	16	16	17	20	94	163	376	59	23	34
22	22	16	17	16	17	21	108	194	363	58	21	24
23	25	15	17	16	17	22	108	280	376	54	60	24
24	26	17	16	17	17	22	92	288	372	56	66	24
25	24	18	16	17	16	20	72	232	354	54	46	24
26	24	18	17	18	16	19	63	214	340	54	39	24
27	22	17	18	19	17	20	63	218	336	48	36	24
28	21	16	17	18	18	19	70	232	309	45	35	24
29	22	17	16	18	18	19	85	246	272	41	31	23
30	21	17	16	19	---	17	87	250	268	45	30	21
31	18	---	16	17	---	18	---	253	---	46	39	---
TOTAL	658	541	538	541	523	562	1463	5019	11195	3324	1146	1254
MEAN	21.2	18.0	17.4	17.5	18.0	18.1	48.8	162	373	107	37.0	41.8
MAX	34	22	19	20	20	22	108	288	517	260	66	94
MIN	18	15	16	16	16	16	16	74	250	41	21	21
AC-FT	1310	1070	1070	1070	1040	1110	2900	9960	22210	6590	2270	2490

CAL YR 1979 TOTAL 37980.0 MEAN 104 MAX 616 MIN 9.0 AC-FT 75330
WTR YR 1980 TOTAL 26764.0 MEAN 73.1 MAX 517 MIN 15 AC-FT 53090

NOTE.--NO GAGE-HEIGHT RECORD NOV. 29 TO MAR. 24.

08219500 SOUTH FORK RIO GRANDE AT SOUTH FORK, CO

LOCATION.--Lat 37°39'25", long 106°38'55", in SW¼NE¼ sec.3, T.39 N., R.3 E., Rio Grande County, Hydrologic Unit 13010001, on left bank near U.S. Highway 160, 700 ft (210 m) downstream from Church Creek, 0.8 mi (1.3 km) southwest of village of South Fork, and 1.4 mi (2.3 km) upstream from mouth.

DRAINAGE AREA.--216 mi² (559 km²).

PERIOD OF RECORD.--August 1910 to September 1922, May 1936 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1912, 1944(M). WSP 1632: 1956-58(P).

GAGE.--Water-stage recorder. Datum of gage is 8,221.79 ft (2,506.002 m), National Geodetic Vertical Datum of 1929. Aug. 9, 1910, to Mar. 28, 1915, nonrecording gage, and Mar. 29, 1915, to Sept. 30, 1922, water-stage recorder, at bridges 1 mi (1.6 km) downstream at different datums.

REMARKS.--Records good except those for winter period, which are poor. Transmountain diversions from Colorado River basin to drainage area above station through Treasure Pass ditch (see elsewhere in this report). Natural flow of stream affected by a few small diversions for irrigation, slight regulation by Beaver Creek Reservoir, capacity, 4,760 acre-ft (5.87 hm³), and several smaller storage reservoirs. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--56 years (water years 1911-22, 1937-80), 210 ft³/s (5.947 m³/s), 152,100 acre-ft/yr (188 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft³/s (227 m³/s) Oct. 5, 1911, gage height, 9.7 ft (2.96 m), from floodmarks, present site and datum, from rating curve extended above 1,500 ft³/s (42 m³/s); minimum daily, 10 ft³/s (0.28 m³/s) Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, exceeded all other observed floods at this location since at least 1873. Flood of June 29, 1927, reached a stage about 1 ft (0.3 m) lower than that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,700 ft³/s (76.5 m³/s) at 0100 June 10, gage height, 6.22 ft (1.896 m), only peak above base of 900 ft³/s (25 m³/s); minimum daily, 31 ft³/s (0.88 m³/s) Nov. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	89	37	37	40	42	45	331	1160	780	83	49
2	37	36	38	38	41	41	50	298	1170	745	84	47
3	36	40	41	37	43	42	48	310	1280	680	85	44
4	36	45	42	36	44	42	52	364	1420	610	85	51
5	36	39	41	37	43	40	55	435	1540	540	84	61
6	36	40	40	38	42	42	57	500	1630	486	87	61
7	36	42	40	39	43	41	57	675	1560	439	87	56
8	36	42	40	40	42	40	58	770	1630	435	105	69
9	36	42	41	38	40	40	64	735	2040	375	102	84
10	36	37	40	42	41	40	70	660	2310	347	97	179
11	36	36	40	40	41	40	75	670	2150	325	91	278
12	36	36	40	40	42	42	75	615	2130	298	104	169
13	36	36	37	40	43	43	66	527	2000	272	111	139
14	36	40	37	42	44	44	72	522	1860	262	120	121
15	36	40	39	44	45	45	93	545	1670	222	129	107
16	36	35	41	40	45	45	114	527	1530	193	123	94
17	36	37	40	40	45	46	139	563	1500	167	114	80
18	39	42	38	41	45	46	175	572	1570	151	109	73
19	40	40	38	41	44	46	220	595	1490	141	105	66
20	43	35	38	41	44	47	280	695	1300	131	104	56
21	88	33	40	37	43	48	316	800	1150	125	88	54
22	58	32	41	37	43	49	379	978	1100	131	66	53
23	53	31	41	37	42	49	407	1140	1110	133	138	51
24	53	32	38	38	42	48	379	1100	1120	129	143	50
25	52	35	39	39	41	48	301	900	1100	120	131	50
26	50	39	42	40	41	49	255	852	1060	118	107	49
27	47	35	44	42	41	49	228	930	1040	109	102	48
28	47	34	38	42	42	48	255	1020	978	102	97	49
29	60	35	36	42	43	49	328	1090	864	96	80	47
30	107	35	37	42	---	47	361	1090	780	84	53	50
31	97	---	36	40	---	47	---	1130	---	88	52	---
TOTAL	1449	1170	1220	1227	1235	1385	5074	21939	43242	8834	3066	2385
MEAN	46.7	39.0	39.4	39.6	42.6	44.7	169	708	1441	285	98.9	79.5
MAX	107	89	44	44	45	49	407	1140	2310	780	143	278
MIN	36	31	36	36	40	40	45	298	780	84	52	44
AC-FT	2870	2320	2420	2430	2450	2750	10060	43520	85770	17520	6080	4730

CAL YR 1979 TOTAL 126117 MEAN 346 MAX 2350 MIN 26 AC-FT 250200
WTR YR 1980 TOTAL 92226 MEAN 252 MAX 2310 MIN 31 AC-FT 182900

NOTE.--NO GAGE-HEIGHT RECORD NOV. 23 TO MAR. 10.

08220000 RIO GRANDE NEAR DEL NORTE, CO

LOCATION.--Lat 37°41'22", long 106°27'38", in NW¼ sec.29, T.40 N., R.5 E., Rio Grande County, Hydrologic Unit 13010001, on right bank 20 ft (6 m) downstream from county highway bridge, 6.0 mi (9.7 km) west of Del Norte, and 6.8 mi (10.9 km) upstream from Pinos Creek.

DRAINAGE AREA.--1,320 mi² (3,419 km²), approximately.

PERIOD OF RECORD.--June 1889 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 763: Drainage area. WSP 1312: 1889, 1901, 1913-14.

GAGE.--Water-stage recorder. Datum of gage is 7,980.25 ft (2,432.380 m), National Geodetic Vertical Datum of 1929. Prior to May 16, 1908, nonrecording gage at site 4 mi (6 km) downstream at different datum. May 16, 1908, to Nov. 8, 1910, nonrecording gages on bridge at present site and datum.

REMARKS.--Records good except those for winter period, which are fair. Small diversions above station for irrigation. Flow regulated by Beaver Creek Reservoir since 1910, Santa Maria Reservoir since 1912, Rio Grande Reservoir since 1912, and Continental Reservoir since 1925, combined capacity, 126,100 acre-ft (155 hm³), and by several smaller reservoirs. Transmountain diversions to drainage area above station from Colorado River basin (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--91 years, 898 ft³/s (25.43 m³/s), 650,600 acre-ft/yr (802 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft³/s (510 m³/s) Oct. 5, 1911, gage height, 6.80 ft (2.073 m), from rating curve extended above 12,900 ft³/s (365 m³/s); minimum daily, 69 ft³/s (1.95 m³/s) Aug. 21, 1902.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1873, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,750 ft³/s (219 m³/s) at 0800 June 10, gage height, 5.59 ft (1.704 m); minimum daily, 150 ft³/s (4.25 m³/s) Nov. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	277	190	190	205	223	195	1250	4940	3150	1150	462
2	231	231	195	200	215	219	219	1160	4890	3120	1090	468
3	231	231	220	195	225	223	201	1120	5070	3100	705	455
4	223	255	225	190	230	227	223	1210	5400	3060	590	425
5	219	246	220	195	220	208	242	1320	5720	3000	494	368
6	223	238	215	200	215	227	259	1500	6230	2860	468	310
7	219	255	220	200	225	212	264	1890	6090	2820	455	315
8	212	259	220	195	215	205	231	2240	6060	2750	474	330
9	208	250	225	195	200	205	255	2270	6820	2570	481	362
10	208	231	220	200	205	201	277	2060	7250	2520	437	548
11	208	219	210	195	205	208	305	2110	5970	2430	419	1190
12	212	198	210	195	210	212	264	1980	5900	2340	413	813
13	205	198	190	200	215	205	264	1690	6110	2240	413	658
14	198	231	190	215	230	208	281	1580	5810	2210	413	590
15	205	231	200	225	240	223	351	1550	5400	2160	462	541
16	208	195	210	200	235	231	401	1490	5100	2080	488	500
17	212	208	200	200	235	201	449	1510	4710	1900	419	468
18	212	250	190	205	240	198	514	1530	4740	1840	384	455
19	212	235	190	210	235	208	642	1530	4740	1770	356	425
20	219	195	190	210	230	219	788	1740	4450	1780	340	401
21	305	172	200	180	225	223	911	2610	4140	1760	320	390
22	310	163	205	180	225	231	1000	3380	3950	1730	286	384
23	259	150	205	180	220	231	1140	4220	3780	1620	390	378
24	264	155	190	190	219	216	1250	4560	3950	1570	681	373
25	255	190	195	195	212	227	992	4160	3880	1560	562	368
26	242	210	210	200	216	201	875	3990	3860	1520	507	362
27	238	190	220	215	219	219	830	4030	3800	1410	481	356
28	231	170	190	210	227	201	911	4200	3680	1340	481	346
29	227	170	180	210	235	205	1060	4670	3440	1290	474	351
30	295	170	185	220	---	205	1200	4710	3140	1230	431	351
31	277	---	185	200	---	219	---	4870	---	1220	431	---
TOTAL	7199	6373	6295	6195	6428	6641	16794	78130	149020	65950	15495	13743
MEAN	232	212	203	200	222	214	560	2520	4967	2127	500	458
MAX	310	277	225	225	240	231	1250	4870	7250	3150	1150	1190
MIN	198	150	180	180	200	198	195	1120	3140	1220	286	310
AC-FT	14280	12640	12490	12290	12750	13170	33310	155000	295600	130800	30730	27260

CAL YR 1979 TOTAL 481243 MEAN 1318 MAX 7830 MIN 105 AC-FT 954500
WTR YR 1980 TOTAL 378263 MEAN 1034 MAX 7250 MIN 150 AC-FT 750300

08220500 PINOS CREEK NEAR DEL NORTE, CO

LOCATION.--Lat 37°35'30", long 106°26'58", in SW¼SE¼ sec.29, T.39 N., R.5 E., Rio Grande County, Hydrologic Unit 13010002, on left bank 90 ft (27 m) downstream from Bennett Creek and 8.0 mi (12.9 km) southwest of Del Norte.

DRAINAGE AREA.--53 mi^2 (140 km^2), approximately.

PERIOD OF RECORD.--April 1919 to September 1924, May 1936 to current year. No winter records prior to 1950 except water years 1941, 1944-47. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1922(M), 1941(M). WSP 1923: 1960(M).

GAGE.--Water-stage recorder and rectangular box flume. Altitude of gage is 8,480 ft (2,585 m), from topographic map. May 1, 1919, to Sept. 30, 1924, nonrecording gages at sites about 1,000 ft (300 m) downstream at different datum.

REMARKS.--Records good except those for period of no gage-height record, which are poor. One small diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--36 years (water years 1941, 1944-47, 1950-80), 24.0 ft^3/s (0.680 m^3/s), 17,390 acre-ft/yr (21.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, occurred June 3, 1922, caused by failure of private fish-lake dam; maximum discharge determined, 720 ft^3/s (20.4 m^3/s) Aug. 3, 1936, gage height, 4.19 ft (1.277 m), by slope-area measurement of peak flow; minimum daily, 0.40 ft^3/s (0.011 m^3/s) Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 3, 1922, exceeded all other observed floods at this location since at least 1903, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 246 ft^3/s (6.97 m^3/s) at 2200 June 9, gage height, 2.30 ft (0.701 m), only peak above base of 120 ft^3/s (3.4 m^3/s); minimum daily, 4.4 ft^3/s (0.125 m^3/s) Oct. 30, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	6.4	5.5	5.0	5.5	5.5	5.5	37	140	62	16	8.3
2	6.4	8.3	5.5	5.5	6.0	5.5	6.0	36	136	58	16	7.5
3	6.4	9.6	6.0	5.5	6.5	6.0	6.0	37	142	54	18	7.5
4	6.4	9.6	6.0	5.0	6.5	6.0	6.5	41	153	49	16	7.1
5	6.4	7.5	6.0	5.0	6.0	5.5	7.0	46	165	44	14	7.1
6	6.0	7.1	5.5	5.5	6.0	6.5	8.0	52	170	42	14	7.1
7	6.0	7.1	6.0	5.5	6.5	6.0	8.0	65	160	43	17	7.5
8	6.0	7.1	6.0	5.5	6.0	5.5	8.5	73	175	42	24	7.5
9	6.0	6.7	6.0	5.5	5.5	5.5	9.1	77	202	39	18	9.6
10	6.0	6.7	6.0	6.0	5.5	6.0	9.6	75	200	37	12	14
11	6.0	6.5	6.0	5.5	5.5	6.0	10	78	190	34	10	12
12	6.0	6.0	6.0	5.5	5.5	6.0	9.6	79	182	32	10	7.5
13	6.0	6.0	5.5	6.0	6.0	5.5	10	65	177	29	9.6	6.7
14	6.0	6.5	5.5	6.5	6.5	6.0	12	63	161	29	11	6.4
15	6.0	6.5	6.0	6.5	6.5	6.0	12	64	147	26	12	6.0
16	8.7	6.0	6.0	6.0	6.5	6.0	14	60	131	24	9.6	5.6
17	9.1	6.0	6.0	6.0	6.5	5.0	17	66	129	23	8.7	5.3
18	10	6.5	6.0	6.0	6.5	5.5	21	74	125	21	7.9	5.3
19	10	6.5	6.0	6.5	6.5	6.0	26	78	124	21	7.9	5.0
20	9.6	5.5	6.0	6.5	6.5	6.0	30	95	116	20	10	5.0
21	12	5.5	5.5	5.5	6.0	6.0	36	118	109	20	10	5.0
22	8.6	5.5	6.0	5.0	5.5	6.5	41	147	101	20	10	6.4
23	10	5.0	5.5	5.0	5.5	6.5	44	167	99	19	17	6.7
24	10	5.0	5.5	5.0	5.5	6.0	45	160	92	19	14	6.0
25	10	5.5	5.5	5.5	5.0	5.6	37	136	84	23	14	6.0
26	9.1	6.0	6.0	5.5	5.5	5.5	30	127	72	21	10	5.6
27	8.7	5.5	6.5	6.0	5.5	6.0	28	130	69	18	12	5.6
28	6.4	5.0	5.5	6.0	5.5	5.5	30	142	67	18	12	5.6
29	6.7	5.0	5.0	6.0	6.0	5.5	34	146	65	17	12	5.6
30	4.4	5.0	5.0	6.0	---	5.5	37	142	62	18	12	5.6
31	4.4	---	5.0	5.5	---	6.0	---	143	---	18	11	---
TOTAL	230.0	191.1	178.5	176.0	172.5	180.6	597.8	2819	3945	940	395.7	206.1
MEAN	7.42	6.37	5.76	5.68	5.95	5.83	19.9	90.9	132	30.3	12.8	6.87
MAX	12	9.6	6.5	6.5	6.5	6.5	45	167	202	62	24	14
MIN	4.4	5.0	5.0	5.0	5.0	5.0	5.5	36	62	17	7.9	5.0
AC-FT	456	379	354	349	342	358	1190	5590	7820	1860	785	409

CAL YR 1979 TOTAL 12906.8 MEAN 35.4 MAX 262 MIN 3.5 AC-FT 25600
WTR YR 1980 TOTAL 10032.3 MEAN 27.4 MAX 202 MIN 4.4 AC-FT 19900

NOTE.--NO GAGE-HEIGHT RECORD NOV. 13 TO MAR. 24.

08221500 RIO GRANDE NEAR MONTE VISTA. CO

LOCATION.--Lat 37°36'34". long 106°08'54". in NW¼SW¼ sec.19. T.39 N.. R.8 E.. Rio Grande County. Hydrologic Unit 13010002. on left bank 50 ft (15 m) downstream from bridge on U.S. Highway 285. 2.0 mi (3.2 km) north of Monte Vista. and 12 mi (19 km) downstream from San Francisco Creek.

DRAINAGE AREA.--1.590 mi^2 (4.120 km^2). approximately.

PERIOD OF RECORD.--May 1926 to current year. Monthly discharge only for some periods. published in WSP 1312.

REVISED RECORDS.--WSP 928: Drainage area. WSP 1712: 1959.

GAGE.--Water-stage recorder. Datum of gage is 7.654.16 ft (2.322.988 m) Colorado State Highway Datum. See WSP 1712 or 1732 for history of changes prior to June 15. 1938. June 16. 1938. to Feb. 28. 1971. at site 50 ft (15 m) upstream at present datum.

REMARKS.--Records good except those for winter period. which are poor. Diversions above station for irrigation of about 90.000 acres (364 km^2). Flow regulated by Beaver Creek. Santa Maria. Rio Grande. and Continental Reservoirs. combined capacity. 126.100 acre-ft (155 hm^3). and by several smaller reservoirs. Transmountain diversions to drainage area above station from Colorado River basin (see elsewhere in this report). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--54 years. 331 ft^3/s (9.374 m^3/s). 239.800 acre-ft/yr (296 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge. 18.500 ft^3/s (524 m^3/s) June 30. 1927. gage height. 7.35 ft (2.240 m). present datum. from floodmarks; maximum gage height. 8.00 ft (2.438 m) June 19. 1949; minimum daily discharge. 1.5 ft^3/s (0.042 m^3/s) Apr. 14. 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge. 3.810 ft^3/s (108 m^3/s) at 1830 June 10. gage height. 6.91 ft (2.106 m); minimum daily. 6.4 ft^3/s (0.18 m^3/s) Nov. 21.

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	61	150	185	210	240	205	548	2210	1150	126	89
2	53	84	165	195	220	236	226	520	2280	1200	128	109
3	78	53	170	205	225	236	216	471	2320	1210	164	100
4	91	28	185	200	230	236	222	493	2400	1190	164	95
5	87	26	190	195	215	233	236	559	2580	1130	176	69
6	80	34	190	205	225	233	256	684	2890	1070	176	56
7	80	26	190	205	220	226	264	832	2810	1070	176	74
8	74	61	200	210	230	216	265	1030	2690	994	167	100
9	78	29	195	210	225	208	270	1010	3030	881	179	134
10	76	26	205	210	210	208	272	918	3440	755	141	147
11	74	18	200	210	220	212	300	1000	2770	654	111	352
12	80	20	190	205	210	208	280	955	2150	618	95	256
13	82	20	190	210	215	199	268	881	2320	570	111	126
14	80	21	175	215	225	205	268	874	2150	554	118	78
15	82	32	175	230	240	216	300	846	1780	520	113	63
16	87	28	180	235	255	226	347	811	1630	455	139	42
17	89	14	190	220	260	202	374	790	1470	312	82	60
18	89	18	180	220	265	205	415	804	1440	230	67	80
19	91	37	175	225	270	212	482	811	1430	189	93	72
20	84	19	180	220	260	212	570	902	1290	176	111	70
21	91	6.4	185	215	255	222	504	1360	1200	189	126	61
22	111	8.8	190	190	245	222	342	1790	1270	158	116	58
23	46	27	190	190	240	236	450	2160	1250	147	136	89
24	29	34	190	195	240	222	526	2230	1360	153	308	118
25	25	44	180	200	240	230	466	1980	1290	158	272	111
26	18	53	185	205	245	212	365	2000	1370	128	111	109
27	14	90	200	210	250	222	347	2070	1320	121	76	109
28	11	100	205	220	248	212	342	2150	1270	121	72	97
29	19	120	185	220	236	219	383	2390	1150	113	87	93
30	25	140	180	215	---	219	466	2270	1050	118	104	93
31	48	---	185	220	---	226	---	2200	---	136	91	---
TOTAL	2022	1278.2	5750	6490	6829	6811	10227	38339	57610	16470	4136	3110
MEAN	65.2	42.6	185	209	235	220	341	1237	1920	531	133	104
MAX	111	140	205	235	270	240	570	2390	3440	1210	308	352
MIN	11	6.4	150	185	210	199	205	471	1050	113	67	42
AC-FT	4010	2540	11410	12870	13550	13510	20290	76050	114300	32670	8200	6170

CAL YR 1979 TOTAL 259626.2 MEAN 711 MAX 3960 MIN 6.4 AC-FT 515000
WTR YR 1980 TOTAL 159072.2 MEAN 435 MAX 3440 MIN 6.4 AC-FT 315500

NOTE.--NO GAGE-HEIGHT RECORD NOV. 27 TO FEB. 19.

08223000 RIO GRANDE AT ALAMOSA, CO

LOCATION.--Lat 37°28'53", long 105°52'46", in SE¼NE¼ sec.4, T.37 N., R.10 E., Alamosa County, Hydrologic Unit 13010002, on right bank 0.2 mi (0.3 km) northwest of city limits of Alamosa and 9 mi (14 km) upstream from Alamosa Creek.

DRAINAGE AREA.--1,710 mi² (4,430 km²), approximately.

PERIOD OF RECORD.--May 1912 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 928: Drainage area. WSP 1312: 1936(M). WSP 1732: 1951.

GAGE.--Water-stage recorder. Datum of gage is 7,532.66 ft (2,295.955 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 7, 1915, nonrecording gages, and Apr. 7, 1915, to Nov. 5, 1935, water-stage recorder, at railroad and highway bridges in Alamosa 1.0 to 2.5 mi (1.6 to 4.0 km) downstream at different datums. Nov. 6, 1935, to June 30, 1942, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--68 years, 250 ft³/s (7.080 m³/s), 181,100 acre-ft/yr (223 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s (396 m³/s) July 1, 1927, gage height, 8.37 ft (2.551 m), site and datum then in use; maximum gage height, 10.62 ft (3.237 m) June 20, 1949; minimum daily discharge, 1.0 ft³/s (0.028 m³/s) May 19, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1911 with a stage of 0.2 ft (0.061 m) lower than that of July 1, 1927, from floodmarks, probably exceeded that of July 1, 1927; and is probably the greatest since at least 1884, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,090 ft³/s (59.2 m³/s) at 0530 June 12, gage height, 6.92 ft (2.109 m); minimum daily, 19 ft³/s (0.54 m³/s) Oct. 1-5, 9-12, Sept. 21-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	70	120	185	220	258	245	410	1180	239	39	32
2	19	94	130	185	215	260	237	412	1180	326	38	32
3	19	121	140	195	230	264	247	418	1250	395	37	31
4	19	99	145	205	230	262	241	428	1210	472	44	30
5	19	80	150	205	235	260	249	408	1210	468	57	28
6	20	74	150	200	200	260	260	440	1260	428	62	27
7	20	79	155	210	230	266	272	505	1390	405	65	26
8	20	73	160	210	230	260	276	619	1470	395	52	25
9	19	96	170	220	235	250	260	728	1440	365	49	27
10	19	80	165	220	235	243	268	694	1500	312	54	35
11	19	73	175	220	220	226	284	664	1760	226	46	45
12	19	65	175	220	230	237	304	694	1900	177	48	168
13	20	64	170	215	215	237	282	661	1250	139	39	94
14	22	66	165	220	220	233	278	616	1120	121	35	38
15	22	62	155	230	230	239	282	631	1050	111	35	29
16	23	70	160	240	245	247	316	652	830	111	34	27
17	24	68	160	245	265	254	362	613	673	89	35	23
18	24	61	165	235	285	237	405	622	520	79	32	22
19	26	59	160	235	290	235	452	622	488	103	31	21
20	27	68	160	240	295	239	526	610	440	90	30	20
21	29	60	165	230	280	241	631	643	350	89	29	19
22	31	50	175	220	275	252	488	884	320	89	29	19
23	79	60	175	200	265	260	355	1080	330	74	30	19
24	60	75	170	200	255	270	445	1250	332	66	31	19
25	60	80	170	205	260	258	425	1360	345	59	147	19
26	60	80	170	210	260	260	316	1310	316	64	155	19
27	56	85	175	215	265	252	322	1220	352	55	62	19
28	54	95	180	220	256	256	324	1230	362	49	45	19
29	51	95	165	225	266	245	324	1240	342	46	40	19
30	49	110	175	225	---	249	378	1300	286	44	37	19
31	47	---	175	220	---	245	---	1270	---	43	33	---
TOTAL	995	2312	5025	6705	7137	7755	10054	24234	26456	5729	1500	970
MEAN	32.1	77.1	162	216	246	250	335	782	882	185	48.4	32.3
MAX	79	121	180	245	295	270	631	1360	1900	472	155	168
MIN	19	50	120	185	200	226	237	408	286	43	29	19
AC-FT	1970	4590	9970	13300	14160	15380	19940	48070	52480	11360	2980	1920

CAL YR 1979 TOTAL 191346 MEAN 524 MAX 2980 MIN 19 AC-FT 379500
WTR YR 1980 TOTAL 98872 MEAN 270 MAX 1900 MIN 19 AC-FT 196100

NOTE.--NO GAGE-HEIGHT RECORD JAN. 17 TO FEB. 19.

08224110 SAN LUIS CREEK NEAR PONCHA PASS, CO

LOCATION.--Lat 38°24'22", long 106°03'49", in NE¼NE¼ sec.22, T.48 N., R.8 E., Saguache County, Hydrologic Unit 13010003, on right bank 0.1 mi (0.2 km) east of U.S. Highway 285, 0.5 mi (0.8 km) upstream from Round Hill Gulch, 1.3 mi (2.1 km) downstream from Dorsey Creek, and 1.7 mi (2.7 km) southeast of Poncha Pass.

DRAINAGE AREA.--6.57 mi² (17.02 km²).

PERIOD OF RECORD.--June 1979 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,780 ft (2,676 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor.

EXTREMES FOR CURRENT YEAR.--Peak discharges for period June 13, 1979 to Sept. 30, 1980, above base of 5 ft³/s (0.14 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Aug. 14, 1979	1000	5.1	0.14	0.94	0.286	June 8, 1980	1445	6.1	0.17	1.04	0.317
May 22, 1980	2200	*8.2	0.23	1.16	0.354						

Minimum daily discharge, 0.18 ft³/s (0.005 m³/s) Aug. 7, 1979.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	2.0	.50	.60
2									---	1.9	.40	.50
3									---	1.8	.36	.45
4									---	1.7	.26	.45
5									---	1.5	.20	.40
6									---	2.0	.20	.36
7									---	1.9	.18	.40
8									---	1.5	.23	.36
9									---	1.3	.55	.36
10									---	1.2	.62	.29
11									---	1.4	.62	.60
12									---	1.0	.57	.68
13									3.3	.94	.77	.50
14									3.4	.86	3.6	.53
15									3.4	1.6	3.2	.58
16									3.3	1.6	2.0	.50
17									3.1	.99	1.6	.40
18									2.9	1.4	1.5	.36
19									3.0	1.1	1.4	.29
20									2.8	.96	1.4	.36
21									2.8	.95	1.2	1.9
22									2.8	.86	1.0	.69
23									2.6	.73	.99	.55
24									2.6	.65	.96	.40
25									2.4	.60	.92	.36
26									2.3	.55	.93	.40
27									2.2	.74	.88	.33
28									2.1	.60	.75	.36
29									1.9	.60	.67	.33
30									2.0	.55	.82	.29
31									---	.50	.74	---
TOTAL									---	35.98	30.02	14.58
MEAN									---	1.16	.97	.49
MAX									---	2.0	3.6	1.9
MIN									---	.50	.18	.29
AC-FT									---	71	60	29

08224110 SAN LUIS CREEK NEAR PONCHA PASS, CO--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	.96	.97	.65	.40	.95	.69	3.1	5.0	.82	.92	.56
2	.29	.97	.98	.60	.40	.95	.68	3.2	4.9	1.4	.93	.53
3	.26	.70	.94	.62	.45	.90	.65	4.3	4.8	1.1	.95	.52
4	.29	.70	.90	.55	.50	.90	.66	5.0	4.5	.84	.88	.48
5	.29	.80	.99	.55	.60	.90	.66	4.8	4.5	.62	.92	.45
6	.26	.80	1.0	.40	.60	.85	.66	5.8	4.5	.59	.91	.52
7	.26	.58	1.0	.40	.60	.80	.65	5.4	4.3	.58	.94	.54
8	.32	.65	1.0	.40	.55	.80	.65	5.4	4.8	.55	1.1	.65
9	.32	.70	1.1	.40	.55	.80	.65	5.0	3.8	.65	1.1	.96
10	.32	1.0	1.1	.35	.65	.80	.67	5.0	2.8	1.4	.90	1.5
11	.32	.97	1.2	.35	.70	.80	.70	4.9	3.0	1.4	.87	1.0
12	.32	.98	1.2	.35	.80	.75	.70	4.8	2.9	1.3	.95	.85
13	.32	.94	1.2	.40	.80	.70	.70	4.8	2.9	1.3	1.0	.80
14	.36	.97	1.1	.40	.80	.70	.70	4.9	2.6	1.3	1.2	.77
15	.40	1.2	1.2	.40	.80	.70	.70	5.0	2.4	1.2	1.7	.76
16	.40	1.6	1.2	.40	.80	.70	.70	5.0	2.4	1.1	.99	.75
17	.42	.99	1.2	.40	.85	.70	.70	5.0	2.1	1.0	.89	.72
18	.45	1.1	1.0	.40	.85	.75	.75	4.8	2.0	.96	.86	.66
19	.44	1.2	.96	.40	.85	.75	.80	4.8	1.9	1.0	.84	.60
20	.58	1.1	.95	.40	.85	.75	.90	5.0	1.8	.96	.76	.56
21	.86	.83	.86	.40	.80	.75	.90	5.7	1.6	.87	.75	.56
22	.65	.83	.87	.40	.80	.80	.90	7.2	1.5	1.2	.77	.61
23	.80	.88	.90	.40	.80	.80	1.0	7.8	1.4	1.4	.84	.63
24	.91	.82	.90	.35	.80	.80	1.0	7.6	1.2	1.1	.90	.63
25	.79	.83	.84	.35	.80	.80	1.1	7.2	1.2	1.1	.68	.69
26	.78	.90	.80	.35	.90	.75	1.2	6.9	1.0	1.2	.65	.69
27	.70	.94	.75	.35	1.0	.75	1.3	6.6	.91	.99	.65	.68
28	.60	.91	.76	.35	1.0	.70	1.6	6.2	.79	.90	.62	.69
29	.65	.97	.69	.35	1.0	.70	2.9	6.2	.73	.90	.57	.70
30	.70	.97	.72	.35	---	.70	3.9	5.8	.74	.89	.63	.69
31	1.1	---	.65	.40	---	.70	---	5.0	---	.92	.61	---
TOTAL	15.45	27.79	29.93	12.87	21.30	24.20	29.77	168.2	78.97	31.54	27.28	20.75
MEAN	.50	.93	.97	.42	.73	.78	.99	5.43	2.63	1.02	.88	.69
MAX	1.1	1.6	1.2	.65	1.0	.95	3.9	7.8	5.0	1.4	1.7	1.5
MIN	.26	.58	.65	.35	.40	.70	.65	3.1	.73	.55	.57	.45
AC-FT	31	55	59	26	42	48	59	334	157	63	54	41

WTR YR 1980 TOTAL 488.05 MEAN 1.33 MAX 7.8 MIN .26 AC-FT 968

08224113 SAN LUIS CREEK NEAR VILLA GROVE, CO

LOCATION.--Lat 38°24'04", long 106°03'51", in SE¼NE¼ sec.22, T.47 S., R.8 E., Saguache County, Hydrologic Unit 13010003, on right bank 600 ft (183 m) east of U.S. Highway 285, 0.2 mi (0.3 km) upstream from Round Hill Gulch, 1.1 mi (1.8 km) upstream from Lone Tree Creek, and 11.3 mi (18.2 km) northwest of Villa Grove.

DRAINAGE AREA.--11.2 mi² (29.0 km²).

PERIOD OF RECORD.--June 1979 to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 8,710 ft (2,655 m), from topographic map.

REMARKS.--Records good except those Sept. 10 to Dec. 5, 1979, which are fair, and those Dec. 6, 1979 to Apr. 26, 1980, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7.8 ft³/s (0.22 m³/s) May 24, 1980, gage height, 1.33 ft (0.405 m); minimum daily, 0.25 ft³/s (0.007 m³/s) Sept. 5, 6, 10, 19, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges for period Jan. 14, 1979, to Sept. 30, 1980, above base of 5 ft³/s (0.14 m³/s), and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
May 6	1745	7.6	0.22	1.32	0.402	May 24	0015	*7.8	0.22	1.33	0.405

Minimum daily discharge, 0.30 ft³/s (0.008 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	1.6	.48	.32
2									---	1.5	.41	.33
3									---	1.4	.38	.29
4									---	1.4	.32	.27
5									---	1.3	.27	.25
6									---	1.5	.27	.25
7									---	1.5	.27	.27
8									---	1.2	.29	.38
9									---	1.1	.46	.29
10									---	1.0	.52	.25
11									---	1.1	.51	.40
12									---	.85	.43	.45
13									---	.78	.55	.30
14									3.0	.72	2.7	.30
15									3.1	1.2	2.2	.35
16									3.0	1.6	1.3	.30
17									2.7	1.3	.93	.30
18									2.6	1.4	.87	.25
19									2.6	1.2	.85	.25
20									2.4	1.1	.82	.25
21									2.4	1.0	.70	1.2
22									2.3	.92	.60	.60
23									2.2	.72	.56	.45
24									2.2	.64	.55	.35
25									2.0	.59	.53	.30
26									2.0	.58	.45	.35
27									1.9	.71	.53	.30
28									1.7	.55	.45	.35
29									1.6	.54	.40	.30
30									1.6	.49	.45	.30
31									---	.47	.29	---
TOTAL									---	31.96	20.34	10.55
MEAN									---	1.03	.66	.35
MAX									---	1.6	2.7	1.2
MIN									---	.47	.27	.25
AC-FT									---	63	40	21

08224113 SAN LUIS CREEK NEAR VILLA GROVE. CO--Continued

DISCHARGE. IN CUBIC FEET PER SECOND. WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.90	.95	.70	.45	1.0	.75	3.4	5.5	1.0	.80	.55
2	.30	.80	.92	.70	.45	.90	.75	3.5	5.3	1.7	.80	.51
3	.35	.70	.94	.65	.50	.90	.75	4.5	4.9	1.3	.80	.49
4	.40	.60	.92	.60	.60	.90	.75	5.2	4.7	1.0	.70	.47
5	.45	.70	.92	.55	.65	.90	.75	4.9	4.7	.86	.70	.47
6	.49	.70	.91	.50	.65	.90	.75	6.2	4.5	.80	.75	.51
7	.49	.52	.95	.50	.60	.80	.75	5.8	4.5	.75	.65	.53
8	.49	.52	.95	.50	.60	.80	.75	5.7	4.5	.75	.85	.58
9	.50	.56	1.0	.45	.70	.80	.80	5.2	3.7	.75	1.1	.89
10	.52	.56	1.1	.45	.80	.80	.80	5.2	2.3	1.5	.73	1.5
11	.51	.56	1.1	.40	.90	.75	.80	5.0	2.5	1.4	.66	1.2
12	.53	.48	1.1	.40	.90	.70	.80	4.9	2.4	1.3	.68	.97
13	.54	.56	1.1	.45	.90	.70	.80	4.9	2.3	1.3	.73	.92
14	.57	.60	1.2	.45	.90	.70	.80	4.9	2.2	1.3	.80	.87
15	.63	.80	1.2	.45	.90	.70	.80	5.0	2.1	1.2	1.5	.87
16	.64	.92	1.2	.50	.90	.70	.85	5.0	2.0	1.0	1.2	.75
17	.62	1.1	1.1	.50	.90	.75	.90	5.0	1.8	.98	1.1	.74
18	.70	1.0	1.0	.50	.90	.75	.95	4.9	1.7	.98	1.0	.73
19	.70	.86	1.0	.50	.90	.75	.95	4.9	1.7	.98	.96	.72
20	.75	1.1	1.0	.50	.90	.80	.95	5.2	1.6	1.0	.83	.71
21	.90	1.0	1.0	.45	.85	.90	1.0	5.8	1.5	.92	.81	.70
22	.65	.90	1.0	.40	.85	1.1	1.0	6.7	1.5	1.2	.81	.70
23	.80	.85	.95	.40	.85	1.2	1.1	7.6	1.5	1.5	.89	.72
24	.90	.85	.95	.40	.85	1.2	1.2	7.8	1.4	1.2	.99	.73
25	.80	.85	.95	.40	.85	1.1	1.3	7.6	1.3	1.1	.78	.74
26	.80	.90	.95	.40	.90	1.0	1.3	7.1	1.3	1.2	.66	.75
27	.70	.95	.90	.40	1.0	.90	1.4	6.7	1.3	.86	.62	.75
28	.70	.95	.85	.40	1.0	.80	1.6	6.4	1.2	.75	.61	.75
29	.70	.95	.80	.40	1.0	.75	2.7	6.2	1.0	.75	.59	.76
30	.75	.95	.80	.45	---	.75	4.0	5.8	1.0	.75	.58	.75
31	1.0	---	.75	.45	---	.75	---	5.7	---	.80	.60	---
TOTAL	19.18	23.69	30.46	14.80	23.15	26.45	32.80	172.7	77.9	32.88	25.28	22.33
MEAN	.62	.79	.98	.48	.80	.85	1.09	5.57	2.60	1.06	.82	.74
MAX	1.0	1.1	1.2	.70	1.0	1.2	4.0	7.8	5.5	1.7	1.5	1.5
MIN	.30	.48	.75	.40	.45	.70	.75	3.4	1.0	.75	.58	.47
AC-FT	38	47	60	29	46	52	65	343	155	65	50	44

WTR YR 1980 TOTAL 501.62 MEAN 1.37 MAX 7.8 MIN .30 AC-FT 995

NOTE.--NO GAGE-HEIGHT RECORD DEC. 6 TO APR. 26.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08224500 KERBER CREEK AT ASHLEY RANCH, NEAR VILLA GROVE, CO

LOCATION.--Lat 38°14'28", long 106°06'57", in SW¼NW¼ sec.17, T.46 N., R.8 E., Saguache County, Hydrologic Unit 13010003, on left bank at Ashley Ranch, 4.5 mi (7.2 km) upstream from Little Kerber Creek, and 9 mi (14 km) west of Villa Grove.

DRAINAGE AREA.--38 mi² (98 km²), approximately.

PERIOD OF RECORD.--June 1923 to September 1926 (published as Kerber Creek near Villa Grove), May 1936 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1937-38. WSP 1512: 1943.

GAGE.--Water-stage recorder. Altitude of gage is 8,830 ft (2,691 m), from topographic map. Prior to Dec. 10, 1963, at site 150 ft (46 m) upstream at datum 1.50 ft (0.457 m) higher.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--47 years (water years 1924-26, 1937-80), 12.6 ft³/s (0.357 m³/s), 9,130 acre-ft/yr (11.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 407 ft³/s (11.5 m³/s) May 14, 1941, gage height, 3.88 ft (1.183 m), site and datum then in use, from rating curve extended above 140 ft³/s (4.0 m³/s); maximum gage height, 5.04 ft (1.536 m), site and datum then in use, May 11, 1947 (backwater from beaver dam); no flow Dec. 30, 1976, to Jan. 31, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1872, that of May 14, 1941, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 145 ft³/s (4.11 m³/s) at 0400 May 31, gage height, 0.58 ft (0.177 m), only peak above base of 70 ft³/s (2.0 m³/s); maximum gage height, 1.44 ft (0.439 m) at 2230 Aug. 8 (due to control change); minimum daily discharge, 2.0 ft³/s (0.057 m³/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	4.0	3.5	3.5	5.5	4.5	3.5	26	133	25	6.5	3.0
2	4.0	4.0	4.0	4.0	5.5	4.5	4.0	22	120	28	6.0	3.0
3	3.6	4.4	5.0	4.0	5.5	4.0	5.5	26	120	28	6.0	2.7
4	3.6	4.8	4.5	4.0	6.0	4.5	5.5	28	115	25	5.5	2.2
5	3.4	5.0	4.0	4.0	6.0	4.5	7.0	31	115	23	5.0	2.0
6	3.4	4.5	4.0	4.0	5.5	4.5	7.0	36	114	22	5.5	2.2
7	3.6	4.6	4.0	4.0	5.5	4.5	7.0	41	112	21	5.5	2.8
8	3.4	4.8	4.0	4.5	5.0	4.5	6.0	40	94	22	6.2	4.0
9	3.8	5.0	4.0	4.5	4.5	3.5	6.5	42	91	21	9.2	6.2
10	3.6	5.0	4.0	5.0	4.5	4.0	7.0	44	107	20	4.0	11
11	3.4	4.5	4.0	5.0	4.5	4.0	7.0	44	112	19	4.0	7.7
12	3.4	4.0	4.0	5.0	4.5	3.5	6.0	44	114	18	5.4	5.3
13	3.4	4.0	4.0	5.0	4.5	3.5	5.5	42	102	18	6.4	4.4
14	3.2	5.0	4.0	5.0	5.0	4.0	8.0	44	105	16	8.8	4.6
15	4.0	5.5	4.0	5.0	6.0	4.5	11	44	102	12	14	4.8
16	3.8	5.0	4.0	6.0	6.0	4.0	17	41	84	12	7.1	4.0
17	3.8	5.0	4.0	5.5	6.0	3.5	16	42	75	9.5	4.8	3.6
18	4.0	5.5	4.0	5.0	6.0	3.5	18	41	71	8.0	4.6	3.2
19	3.4	5.5	4.0	5.5	6.0	4.0	22	44	67	8.5	4.2	2.8
20	4.2	5.6	4.0	6.0	6.0	4.5	24	48	60	9.0	3.4	2.8
21	6.1	5.5	4.0	5.5	5.5	4.5	27	56	54	10	3.4	3.0
22	4.7	5.0	4.5	5.0	5.5	4.5	28	75	53	15	3.4	3.0
23	5.2	4.5	5.0	4.0	5.0	4.5	25	75	52	10	5.2	3.0
24	5.3	4.5	5.0	4.5	3.5	4.0	22	83	56	10	9.0	3.0
25	5.5	4.5	4.5	4.5	4.0	4.5	17	84	50	8.5	9.5	3.0
26	5.0	5.0	4.5	5.0	4.0	4.5	18	105	50	8.5	5.6	3.2
27	4.5	4.5	4.5	5.0	4.5	4.5	16	107	41	7.5	4.2	3.0
28	4.5	4.0	4.0	5.5	4.5	4.5	16	114	35	6.5	4.2	3.0
29	5.0	3.5	3.0	6.0	4.5	4.5	20	120	30	6.5	4.0	3.0
30	6.0	3.5	3.5	6.0	---	4.5	25	124	25	7.0	3.8	3.0
31	5.0	---	3.5	5.5	---	4.0	---	133	---	7.0	3.6	---
TOTAL	130.0	140.2	127.0	151.0	149.0	130.5	407.5	1846	2459	461.5	178.0	112.5
MEAN	4.19	4.67	4.10	4.87	5.14	4.21	13.6	59.5	82.0	14.9	5.74	3.75
MAX	6.1	5.6	5.0	6.0	6.0	4.5	28	133	133	28	14	11
MIN	3.2	3.5	3.0	3.5	3.5	3.5	3.5	22	25	6.5	3.4	2.0
AC-FT	258	278	252	300	296	259	808	3660	4880	915	353	223

CAL YR 1979 TOTAL 6223.0 MEAN 17.0 MAX 115 MIN 1.0 AC-FT 12340
WTR YR 1980 TOTAL 6292.2 MEAN 17.2 MAX 133 MIN 2.0 AC-FT 12480

NOTE.--NO GAGE-HEIGHT RECORD NOV. 22 TO APR. 30.

08226600 NOLAND GULCH TRIBUTARY RESERVOIR INFLOW NEAR VILLA GROVE, CO

LOCATION.--Lat 38°12'34", long 105°57'40", in NW¼SE¼ sec.27, T.46 N., R.9 E., Saguache County, Hydrologic Unit 13010003, on left bank at inflow site to a small channel reservoir 500 ft (152 m) upstream from dam, 1.2 mi (1.9 km) west along Bureau of Land Management road exiting U.S. Highway 285, and 2.7 mi (4.3 km) south of Villa Grove.

DRAINAGE AREA.--0.08 mi^2 (0.21 km^2).

PERIOD OF RECORD.--June 1979 to September 1980 (seasonal record only).

GAGE.--Water-stage recorder and Parshall Flume. Altitude of gage is 8,000 ft (2,438 m) from topographic map.

REMARKS.--Records good. Recording rain gage in basin upstream. This station is designed to evaluate rainfall runoff from a small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 0.12 ft^3/s (0.003 m^3/s) Aug. 14, 1980, gage height, 0.10 ft (0.030 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.12 ft^3/s (0.003 m^3/s) at 0545 Aug. 14, gage height, 0.10 ft (0.030 m); no flow most of time.

NOTE.--NO MEAN DAILY FLOW RECORDED FOR ENTIRE PERIOD OF RECORD.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08227000 SAGUACHE CREEK NEAR SAGUACHE, CO

LOCATION.--Lat 38°09'48", long 106°17'24", in SE¼SE¼ sec.10, T.45 N., R.6 E., Saguache County, Hydrologic Unit 13010004, on left bank 0.2 mi (0.3 km) downstream from Middle Creek and 10 mi (16 km) northwest of Saguache.

DRAINAGE AREA.--595 mi^2 (1,541 km^2).

PERIOD OF RECORD.--August 1910 to September 1912, June 1914 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1242: 1948-49. WSP 1312: 1912, 1934(M), 1942(M). WSP 1923: 1951.

GAGE.--Water-stage recorder. Altitude of gage is about 8,030 ft (2,448 m), from topographic map. Prior to Apr. 9, 1934, at sites 0.8 mi (1.3 km) downstream at different datums. Apr. 10, 1934, to Nov. 20, 1966, at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions from Colorado River basin to drainage area above station through Tarbell ditch (see elsewhere in this report), and diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--68 years (water years 1911-12, 1915-80), 68.1 ft^3/s (1.929 m^3/s), 49,340 acre-ft/yr (60.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 790 ft^3/s (22.4 m^3/s) Aug. 3, 1964, gage height, 3.85 ft (1.173 m), present datum, from rating curve extended above 83 ft^3/s (2.4 m^3/s); maximum gage height, 3.94 ft (1.201 m) May 20, 1970; minimum daily discharge, 7.0 ft^3/s (0.20 m^3/s) Jan. 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 336 ft^3/s (9.5 m^3/s) at 1230 June 12, gage height, 3.25 ft (0.991 m), only peak above base of 210 ft^3/s (5.9 m^3/s); minimum daily, 19 ft^3/s (0.54 m^3/s) Oct. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	20	23	21	32	32	29	81	222	147	53	34
2	26	20	25	23	33	31	30	74	223	169	51	32
3	25	22	35	24	34	29	38	73	225	169	51	31
4	25	28	32	24	35	31	38	81	237	138	49	30
5	24	36	30	25	37	32	45	85	247	122	46	29
6	23	28	29	25	34	31	46	106	260	110	50	30
7	22	34	29	26	34	32	44	116	269	107	51	32
8	25	38	29	27	31	32	34	138	267	114	50	35
9	25	36	30	28	30	27	39	130	270	111	49	47
10	22	34	29	29	30	31	46	116	302	102	44	54
11	19	26	29	30	32	30	45	120	323	98	41	67
12	19	20	30	30	31	29	34	124	323	100	42	60
13	20	21	30	31	31	27	31	116	310	96	41	49
14	21	28	28	30	33	30	39	113	294	96	41	44
15	23	30	28	30	37	35	48	133	274	85	48	40
16	25	25	29	35	36	33	57	140	247	73	58	36
17	25	26	29	32	37	28	56	134	235	71	49	36
18	26	32	27	30	36	29	61	124	233	67	44	34
19	26	30	27	32	36	30	72	115	230	67	40	32
20	26	28	29	35	38	36	77	123	218	66	37	28
21	31	27	29	32	35	36	91	148	205	62	36	27
22	33	26	31	30	35	36	93	194	199	65	34	28
23	27	23	33	26	32	36	85	251	194	68	39	30
24	29	26	33	29	25	30	77	267	184	66	63	28
25	31	23	31	30	28	36	59	258	178	69	60	28
26	30	33	31	31	28	34	63	240	176	66	51	28
27	29	30	32	32	32	34	58	230	178	58	45	29
28	28	27	30	35	31	33	58	227	163	52	43	29
29	30	24	20	36	31	33	66	227	147	54	38	28
30	34	22	21	36	---	34	77	225	147	57	36	25
31	26	---	21	32	---	32	---	223	---	57	36	---
TOTAL	802	823	889	916	954	989	1636	4732	6980	2782	1416	1060
MEAN	25.9	27.4	28.7	29.5	32.9	31.9	54.5	153	233	89.7	45.7	35.3
MAX	34	38	35	36	38	36	93	267	323	169	63	67
MIN	19	20	20	21	25	27	29	73	147	52	34	25
AC-FT	1590	1630	1760	1820	1890	1960	3250	9390	13840	5520	2810	2100

CAL YR 1979 TOTAL 28247 MEAN 77.4 MAX 372 MIN 10 AC-FT 56030
WTR YR 1980 TOTAL 23979 MEAN 65.5 MAX 323 MIN 19 AC-FT 47560

08227300 ANACONDA RESERVOIR NEAR VILLA GROVE, CO

LOCATION.--Lat 38°08'48", long 106°00'36", in SW¼SW¼ sec.17, T.45 N., R.9 E., Saguache County, Hydrologic Unit 13010004, on top of earthfill dam near center, 0.4 mi (0.6 km) upstream from Stonehouse Gulch, 0.5 mi (0.8 km) upstream from Big Hollow Gulch, 1.5 mi (2.4 km) north of junction of Bureau of Land Management road and U.S. Highway 285 and 7.7 mi (12.4 km) south of Villa Grove.

DRAINAGE AREA.--0.17 mi^2 (0.44 km^2).

PERIOD OF RECORD.--June 1979 to September 1980 (seasonal record only).

GAGE.--Water-stage recorder. Altitude of gage is 8,025 ft (2,446 m), from topographic map.

REMARKS.--Records good. Reservoir is formed by an earthfill dam. Storage occurs intermittenly from storm runoff. Maximum storage is 4.97 acre-feet (6,130 m^3) at a spillway gage height of 13.3 ft (4.05 m). No contents occur at a gage height of 3.34 ft (1.018 m). This dam forms a small channel reservoir for controlling heavy runoff and to help control sedimentation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents for period June 8 to Sept. 30, 1979, Oct. 1 to Nov. 6, 1979, and Mar. 22 to Sept. 30, 1980, 0.18 acre-feet (222 m^3) July 16, 1979, gage height, 5.50 ft (1.676 m); no contents most of time.

Capacity table (elevation, in feet, and total contents, in acre-feet)

3.3	0
5.6	0.20

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	.00	0	0
2									---	.00	0	0
3									---	.00	0	0
4									---	.00	0	0
5									---	.00	0	0
6									---	.00	0	0
7									---	.00	0	0
8									0	.00	0	0
9									0	.00	0	0
10									0	.00	0	0
11									0	.00	0	0
12									0	.00	0	0
13									0	.00	0	0
14									0	.00	0	0
15									0	.00	0	0
16									0	.14	0	0
17									0	.08	0	0
18									0	.07	0	0
19									0	.05	0	0
20									0	.04	0	0
21									0	.03	0	0
22									0	.02	0	0
23									0	.01	0	0
24									0	.00	0	0
25									0	.00	0	0
26									0	.00	0	0
27									0	.00	0	0
28									0	.00	0	0
29									0	.00	0	0
30									0	.00	0	0
31									---	.00	0	---
MAX									---	.14	.00	.00
MIN									---	.00	.00	.00

08227300 ANACONDA RESERVOIR NEAR VILLA GROVE, CO--Continued

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0				---	0	0	0	.00	.00	0
2	0	0				---	0	0	0	.00	.00	0
3	0	0				---	0	0	0	.00	.00	0
4	0	0				---	0	0	0	.00	.00	0
5	0	0				---	0	0	0	.00	.00	0
6	0	0				---	0	0	0	.00	.00	0
7	0	---				---	0	0	0	.00	.00	0
8	0	---				---	0	0	0	.00	.06	0
9	0	---				---	0	0	0	.00	.04	0
10	0	---				---	0	0	0	.00	.03	0
11	0	---				---	0	0	0	.00	.03	0
12	0	---				---	0	0	0	.00	.01	0
13	0	---				---	0	0	0	.00	.00	0
14	0	---				---	0	0	0	.00	.00	0
15	0	---				---	0	0	0	.00	.00	0
16	0	---				---	0	0	0	.00	.00	0
17	0	---				---	0	0	0	.00	.00	0
18	0	---				---	0	0	0	.00	.00	0
19	0	---				---	0	0	0	.00	.00	0
20	0	---				---	0	0	0	.00	.00	0
21	0	---				---	0	0	0	.00	.00	0
22	0	---				0	0	0	0	.00	.00	0
23	0	---				0	0	0	0	.00	.00	0
24	0	---				0	0	0	0	.00	.00	0
25	0	---				0	0	0	0	.00	.00	0
26	0	---				0	0	0	0	.00	.00	0
27	0	---				0	0	0	0	.00	.00	0
28	0	---				0	0	0	0	.00	.00	0
29	0	---				0	0	0	0	.00	.00	0
30	0	---				0	0	0	0	.04	.00	0
31	0	---				0	---	0	---	.01	.00	---
MAX	.00	---				---	.00	.00	.00	.04	.06	.00
MIN	.00	---				---	.00	.00	.00	.00	.00	.00

08227400 TRACY PIT RESERVOIR INFLOW NEAR SAGUACHE, CO

LOCATION.--Lat 38°02'44", long 106°13'06", in SE¼SE¼ sec.20, T.44 N., R.7 E., Saguache County, Hydrologic Unit 13010004, on left bank 0.5 mi (0.8 km) upstream from mouth at North Tracy Canyon, 5.1 mi (8.2 km) southwest of Saguache, and 5.4 mi (8.7 km) northwest of U.S. Highway 285 at Swede Corners.

DRAINAGE AREA.--0.05 mi^2 (0.13 km^2).

PERIOD OF RECORD.--June 1979 to September 1980 (seasonal record only).

GAGE.--Water-stage recorder and Parshall Flume. Altitude of gage is 8,190 ft (2,496 m) from topographic map.

REMARKS.--Records good. Recording rain gage in basin upstream. This station is designed to evaluate rainfall runoff from a small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--No flow for 1979-80.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08227500 NORTH CRESTONE CREEK NEAR CRESTONE, CO

LOCATION.--Lat 38°00'49", long 105°41'32", Saguache County, Hydrologic Unit 13010003, on right bank in canyon, 1.5 mi (2.4 km) northeast of Crestone, and 3.2 mi (5.1 km) upstream from South Crestone Creek.

DRAINAGE AREA.--10.7 mi² (27.7 km²).

PERIOD OF RECORD.--May 1936 to current year (no winter records prior to 1948).

GAGE.--Water-stage recorder. Altitude of gage is 8,360 ft (2,548 m), from topographic map.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--33 years (water years 1948-80), 11.1 ft³/s (0.314 m³/s), 8,040 acre-ft/yr (9.91 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 735 ft³/s (20.8 m³/s) Aug. 6, 1936, gage height, 4.33 ft (1.320 m), from rating curve extended above 160 ft³/s (4.5 m³/s), on basis of slope-area measurement of peak flow; minimum daily recorded, 0.4 ft³/s (0.011 m³/s) Apr. 3, 1945.

Stage and discharge of the flood of Aug. 6, 1936, are the greatest since October 1911, from information by local residents.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 1911 is the greatest probably since at least 1884.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 168 ft³/s (4.76 m³/s) at 2200 June 11, gage height, 2.37 ft (0.722 m), only peak above base of 60 ft³/s (1.7 m³/s); minimum daily, 1.4 ft³/s (0.040 m³/s) Dec. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	2.0	2.0	1.5	2.0	2.5	3.6	9.2	70	36	5.4	2.0
2	3.3	2.5	2.0	1.5	2.5	2.5	2.4	8.8	69	36	5.4	2.0
3	3.3	2.5	2.5	1.5	2.5	2.5	2.2	10	76	34	5.7	1.8
4	3.3	3.0	2.5	1.5	2.5	2.5	2.0	12	80	29	5.1	1.6
5	3.3	3.0	2.1	1.5	2.5	2.5	2.0	13	91	26	5.1	1.6
6	3.3	2.8	2.0	2.0	2.5	2.5	2.0	16	91	22	4.8	1.8
7	2.8	2.8	2.0	2.0	2.5	2.4	2.0	20	85	20	4.8	1.8
8	2.8	2.8	2.0	2.0	2.0	2.4	2.6	20	90	20	4.8	1.6
9	2.6	2.8	2.0	2.0	2.0	2.4	2.6	20	114	19	5.1	2.6
10	2.6	2.8	2.0	2.0	2.0	2.8	2.0	18	130	18	4.8	16
11	2.6	2.8	2.0	2.0	2.0	2.6	2.0	15	132	17	4.5	39
12	2.6	2.8	2.0	2.0	2.0	2.6	2.6	14	130	16	4.2	23
13	2.6	2.8	2.0	2.0	2.0	3.0	3.0	12	107	15	4.2	17
14	2.6	2.8	2.0	2.0	2.0	3.3	2.8	11	93	15	4.2	12
15	2.6	2.8	2.0	2.0	2.5	3.0	2.8	11	72	14	5.1	11
16	2.6	2.8	2.0	2.5	2.5	2.8	3.3	11	67	13	4.8	9.6
17	2.6	2.8	2.0	2.5	2.5	2.5	3.6	11	65	12	3.9	8.4
18	2.6	2.8	2.0	2.5	2.5	2.7	4.8	11	60	11	3.6	7.6
19	2.6	2.6	2.0	2.5	2.5	2.8	6.8	12	55	10	3.3	6.4
20	2.6	2.8	2.0	2.5	2.5	2.8	8.8	15	55	9.2	3.0	6.0
21	2.8	2.8	2.0	2.0	2.5	2.8	9.6	21	55	8.8	3.0	5.7
22	2.6	2.5	2.0	2.0	2.5	2.8	12	38	52	9.2	2.8	5.4
23	3.3	2.5	2.5	2.0	2.5	2.6	11	55	54	9.6	3.0	5.1
24	3.3	2.5	2.5	2.0	2.0	2.8	8.4	54	54	8.0	3.3	4.8
25	3.0	2.5	2.5	2.0	2.0	2.6	7.2	52	54	7.6	3.6	4.5
26	3.0	2.8	2.5	2.0	2.0	3.2	6.0	44	52	6.8	3.6	4.5
27	3.0	2.6	2.5	2.0	2.5	3.3	5.7	40	51	6.4	3.0	4.5
28	2.8	2.0	2.5	2.5	2.5	3.9	6.4	42	46	6.0	2.8	4.5
29	2.6	2.0	1.4	2.5	2.5	2.6	8.4	49	39	5.7	2.6	4.2
30	2.0	2.0	1.5	2.5	---	2.8	9.2	58	36	5.4	2.4	4.2
31	2.0	---	1.5	2.0	---	3.0	---	70	---	5.4	2.2	---
TOTAL	87.0	79.0	64.5	63.5	67.0	85.5	147.8	793.0	2225	471.1	124.1	220.2
MEAN	2.81	2.63	2.08	2.05	2.31	2.76	4.93	25.6	74.2	15.2	4.00	7.34
MAX	3.3	3.0	2.5	2.5	2.5	3.9	12	70	132	36	5.7	39
MIN	2.0	2.0	1.4	1.5	2.0	2.4	2.0	8.8	36	5.4	2.2	1.6
AC-FT	173	157	128	126	133	170	293	1570	4410	934	246	437

CAL YR 1979 TOTAL 6052.7 MEAN 16.6 MAX 119 MIN 1.4 AC-FT 12010
WTR YR 1980 TOTAL 4427.7 MEAN 12.1 MAX 132 MIN 1.4 AC-FT 8780

NOTE.--NO GAGE-HEIGHT RECORD NOV. 28 TO MAR. 6.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08230500 CARNERO CREEK NEAR LA GARITA, CO

LOCATION.--Lat 37°51'35", long 106°19'08", in SW¼NE¼ sec.28, T.42 N., R.6 E. (projected), Saguache County, Hydrologic Unit 13010004, on left bank 4.5 mi (7.2 km) northwest of La Garita and 6.6 mi (10.6 km) downstream from North Fork.

DRAINAGE AREA.--117 mi^2 (303 km^2).

PERIOD OF RECORD.--April 1919 to current year. No winter records prior to water year 1945 except water years 1926, 1941. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1935 (monthly figures only).

GAGE.--Water-stage recorder. Altitude of gage is 8,150 ft (2,484 m), from topographic map. Prior to Aug. 6, 1925, nonrecording gage or water-stage recorder at site 300 ft (91 m) downstream at different datum. Aug. 6, 1925, to Apr. 20, 1929, nonrecording gage or water-stage recorder at present site at datum 1.00 ft (0.305 m) higher. Apr. 21, 1929, to Nov. 20, 1966, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--38 years (water years 1926, 1941, 1945-80), 10.9 ft^3/s (0.309 m^3/s), 7,900 acre-ft/yr (9.74 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,600 ft^3/s (45.3 m^3/s) July 21, 1945, gage height, 6.75 ft (2.057 m), present datum, from rating curve extended above 160 ft^3/s (4.5 m^3/s); no flow for several days during summer months in 1951, 1955-56, 1963, Dec. 21, 1976, to Feb. 15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 128 ft^3/s (3.62 m^3/s) at 1100 May 24, gage height, 2.58 ft (0.786 m), only peak above base of 110 ft^3/s (3.1 m^3/s); minimum daily, 1.3 ft^3/s (0.037 m^3/s) Sept. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	2.5	3.0	2.5	3.5	3.5	3.5	27	75	14	4.8	1.9
2	3.0	2.5	3.0	3.0	3.5	3.5	4.0	26	72	13	4.5	1.8
3	2.8	3.0	4.0	3.0	3.5	3.5	4.5	29	67	13	5.2	1.6
4	2.6	3.5	3.5	3.0	4.0	3.5	4.5	36	64	10	4.5	1.4
5	2.6	4.0	3.5	3.0	4.0	3.5	5.0	38	61	9.7	3.6	1.3
6	2.6	3.5	3.5	3.0	3.5	3.5	5.0	45	59	9.1	4.2	1.3
7	2.8	4.0	3.5	3.0	3.5	3.5	4.5	56	56	9.7	5.2	1.4
8	3.0	4.5	3.5	3.0	3.5	3.5	4.0	69	54	13	4.8	2.2
9	3.0	4.0	3.5	3.5	3.5	3.0	4.5	62	55	11	5.2	2.8
10	3.0	4.0	3.5	3.5	3.5	3.5	5.5	66	55	9.7	4.0	8.2
11	3.0	3.0	3.5	3.5	3.5	3.5	5.5	70	53	11	3.6	7.9
12	3.0	2.5	3.5	3.5	3.5	3.5	5.0	66	50	9.1	3.4	5.2
13	3.2	2.5	3.5	3.5	3.5	3.0	4.5	59	47	8.5	3.2	4.2
14	3.2	3.0	3.0	3.5	4.0	3.5	6.0	60	44	10	3.0	3.8
15	3.4	3.5	3.0	3.5	4.0	4.0	7.3	65	37	8.8	4.2	3.2
16	3.6	3.0	3.0	4.0	4.0	4.0	8.8	62	36	7.3	4.8	3.2
17	3.2	3.0	3.0	3.5	4.0	3.5	11	64	34	6.5	3.4	2.5
18	3.6	3.5	3.0	3.5	4.0	3.5	14	53	32	6.5	2.8	2.2
19	3.8	3.5	3.0	3.5	4.0	3.5	18	55	26	6.2	2.2	1.9
20	3.8	3.5	3.0	4.0	4.0	4.0	23	64	23	6.2	1.8	1.8
21	4.5	3.5	3.0	3.5	4.0	4.0	28	74	21	5.8	1.6	1.8
22	4.5	3.5	3.5	3.5	4.0	4.0	36	96	21	7.0	1.5	1.8
23	4.2	3.0	3.5	3.0	3.5	4.0	29	103	19	8.2	3.2	1.9
24	4.2	3.0	3.5	3.5	3.0	3.5	23	113	17	8.8	5.0	2.0
25	4.2	3.0	3.5	3.5	3.0	4.0	17	105	18	8.5	5.8	2.0
26	4.0	3.5	3.5	3.5	3.0	4.0	15	92	18	7.0	6.2	2.6
27	3.8	3.5	3.5	3.5	3.5	4.0	14	85	17	5.2	5.0	2.4
28	3.4	3.0	3.5	3.5	3.5	4.0	19	82	15	4.8	3.8	2.4
29	3.4	3.0	2.5	4.0	3.5	4.0	24	80	14	4.5	3.0	2.2
30	3.2	3.0	2.5	4.0	---	4.0	26	78	14	5.2	2.2	2.0
31	3.0	---	2.5	3.5	---	3.5	---	75	---	5.0	2.0	---
TOTAL	104.8	98.5	101.0	105.5	105.5	113.5	379.1	2055	1174	262.3	117.7	80.9
MEAN	3.38	3.28	3.26	3.40	3.64	3.66	12.6	66.3	39.1	8.46	3.80	2.70
MAX	4.5	4.5	4.0	4.0	4.0	4.0	36	113	75	14	6.2	8.2
MIN	2.6	2.5	2.5	2.5	3.0	3.0	3.5	26	14	4.5	1.5	1.3
AC-FT	208	195	200	209	209	225	752	4080	2330	520	233	160

CAL YR 1979 TOTAL 5210.7 MEAN 14.3 MAX 99 MIN 1.5 AC-FT 10340
WTR YR 1980 TOTAL 4697.8 MEAN 12.8 MAX 113 MIN 1.3 AC-FT 9320

NOTE.--NO GAGE-HEIGHT RECORD NOV. 25 TO APR. 4.

CLOSED BASIN IN SAN LUIS VALLEY, CO

08231000 LA GARITA CREEK NEAR LA GARITA, CO

LOCATION.--Lat 37°48'48", long 106°19'04", in NW¼SE¼ sec.9, T.41 N., R.6 E., Saguache County, Hydrologic Unit 13010004, on right bank 4.5 mi (7.2 km) downstream from Little La Garita Creek and 4.5 mi (7.2 km) southwest of La Garita.

DRAINAGE AREA.--61 mi² (160 km²), approximately.

PERIOD OF RECORD.--April 1919 to current year. No winter records prior to water year 1948 except water years 1926, 1941, 1945-46. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1946(M).

GAGE.--Water-stage recorder. Altitude of gage is 8,030 ft (2,448 m), from topographic map. Apr. 1, 1919, to June 23, 1927, nonrecording gages, and June 24, 1927, to Nov. 13, 1935, water-stage recorder, at sites within 0.2 mi (0.3 km) downstream at different datums. Nov. 14, 1935, to Nov. 16, 1966, water-stage recorder at present site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--37 years (water years 1926, 1941, 1945-46, 1948-80), 12.7 ft³/s (0.360 m³/s), 9,200 acre-ft/yr (11.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 530 ft³/s (15.0 m³/s) July 9, 1957, gage height, 4.00 ft (1.219 m), present datum, from rating curve extended above 140 ft³/s (4.0 m³/s); minimum daily recorded, 0.2 ft³/s (0.006 m³/s) Sept. 28, 29, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 175 ft³/s (4.96 m³/s) at 0200 May 29, gage height, 2.57 ft (0.783 m), only peak above base of 80 ft³/s (2.3 m³/s); minimum daily, 3.0 ft³/s (0.085 m³/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	3.5	4.0	3.5	4.5	4.5	4.5	23	82	17	6.5	3.5
2	4.0	4.0	4.5	3.5	4.5	4.5	4.5	22	78	16	6.8	3.5
3	4.0	4.5	5.0	4.0	4.5	4.5	5.0	22	78	16	6.8	3.2
4	4.0	5.6	5.0	4.0	5.0	4.5	5.5	25	78	14	6.8	3.2
5	4.0	5.2	4.5	4.0	5.5	4.5	6.0	27	76	13	5.9	3.0
6	4.0	4.5	4.5	4.0	4.5	4.5	6.0	36	76	12	6.5	3.2
7	4.2	5.5	4.5	4.5	4.5	4.5	6.0	44	69	15	6.5	3.3
8	4.2	6.2	4.5	4.5	4.0	4.5	5.0	52	65	19	7.2	3.3
9	4.4	5.5	4.5	4.5	4.0	4.0	5.5	58	71	16	7.2	4.2
10	4.2	5.0	4.5	5.0	4.0	4.5	6.0	60	76	16	5.1	9.8
11	4.0	4.0	4.5	5.0	4.5	4.5	6.0	63	71	16	4.8	7.6
12	4.4	3.5	4.5	5.0	4.5	4.5	5.0	56	65	15	5.6	4.4
13	4.4	3.5	4.5	5.0	4.5	4.0	4.5	48	60	15	5.1	4.0
14	4.4	4.5	4.5	5.0	4.5	4.5	5.0	49	54	16	5.4	3.8
15	4.6	5.0	4.5	5.0	5.0	5.0	6.0	45	49	14	5.6	4.0
16	4.8	4.5	4.5	5.5	5.0	5.0	6.8	39	46	12	5.1	3.7
17	4.6	4.5	4.5	5.0	5.0	4.0	5.9	41	44	12	4.4	3.5
18	5.1	5.0	4.0	5.0	5.0	4.0	8.6	36	42	11	4.1	3.3
19	5.1	5.0	4.0	5.0	5.0	4.0	11	39	39	10	4.2	3.3
20	5.1	4.5	4.5	5.5	5.0	5.0	14	52	37	9.8	4.1	3.3
21	6.5	4.5	4.5	5.0	5.0	5.0	21	67	35	9.4	3.8	3.3
22	4.4	4.5	4.5	4.5	5.0	5.0	22	87	32	12	3.8	3.3
23	6.4	4.0	5.0	4.0	4.5	5.0	18	97	31	12	5.9	3.8
24	7.4	4.5	5.0	4.5	4.0	4.5	15	125	28	11	6.5	3.8
25	6.8	4.0	5.0	4.5	4.5	5.0	12	102	25	9.8	6.5	3.7
26	5.9	5.0	5.0	4.5	4.5	5.0	10	89	22	8.8	6.5	3.7
27	5.6	5.0	5.0	4.5	4.5	5.0	9.8	100	20	7.2	5.1	3.7
28	5.4	4.5	5.0	4.5	4.5	5.0	13	111	20	6.8	4.6	3.7
29	6.5	4.0	5.0	5.0	4.5	5.0	18	116	20	6.8	3.8	3.8
30	5.4	4.0	3.5	5.0	---	5.0	20	105	19	7.6	3.7	3.7
31	3.5	---	3.5	4.5	---	5.0	---	100	---	7.6	3.5	---
TOTAL	151.3	137.5	140.5	143.0	134.0	143.5	285.6	1936	1508	383.8	167.4	117.6
MEAN	4.88	4.58	4.53	4.61	4.62	4.63	9.52	62.5	50.3	12.4	5.40	3.92
MAX	7.4	6.2	5.0	5.5	5.5	5.0	22	125	82	19	7.2	9.8
MIN	3.5	3.5	3.5	3.5	4.0	4.0	4.5	22	19	6.8	3.5	3.0
AC-FT	300	273	279	284	266	285	566	3840	2990	761	332	233

CAL YR 1979 TOTAL 7021.5 MEAN 19.2 MAX 167 MIN 1.4 AC-FT 13930
WTR YR 1980 TOTAL 5248.2 MEAN 14.3 MAX 125 MIN 3.0 AC-FT 10410

NOTE.--NO GAGE-HEIGHT RECORD NOV. 21 TO APR. 15.

08236000 ALAMOSA CREEK ABOVE TERRACE RESERVOIR, CO

LOCATION.--Lat 37°22'29", long 106°20'03", in NW¼NE¼ sec.17, T.36 N., R.6 E., Conejos County, Hydrologic Unit 13010002, on left bank 0.8 mi (1.3 km) upstream from high-water line of Terrace Reservoir at elevation 8,568 ft (2,611.5 m), 3.0 mi (4.8 km) downstream from French Creek, and 15 mi (24 km) northwest of Capulin.

DRAINAGE AREA.--107 mi² (277 km²).

PERIOD OF RECORD.--September 1911 to September 1912 (published as Rio Alamosa near Monte Vista), May to June 1914, April 1915 to September 1927, October 1934 to current year. No winter records water years 1919-23. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1935(M), 1944(M).

GAGE.--Water-stage recorder. Altitude of gage is 8,600 ft (2,621 m), from topographic map. See WSP 1712 or 1732 for history of changes prior to Oct. 1, 1927.

REMARKS.--Records good except those for winter period, which are poor. No diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--54 years (water years 1912, 1916-18, 1924-27, 1935-80), 111 ft³/s (3.144 m³/s), 80,420 acre-ft/yr (99.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft³/s (147 m³/s) Oct. 5, 1911, gage height, 11.0 ft (3.353 m), site and datum then in use, from floodmark, from rating curve extended above 1,000 ft³/s (28 m³/s), on basis of computation of peak flow over dam about 8 mi (13 km) upstream; minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,380 ft³/s (39.1 m³/s) at 0030 June 10, gage height, 3.41 ft (1.039 m), only peak above base of 670 ft³/s (19 m³/s); minimum daily, 8.0 ft³/s (0.23 m³/s) Dec. 28-31, Jan. 1, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	12	9.5	8.0	10	11	16	106	589	393	61	29
2	19	11	9.5	8.5	10	11	19	91	554	366	61	26
3	19	11	11	8.0	11	13	18	85	610	330	61	24
4	19	14	11	8.5	11	12	20	93	685	292	56	22
5	18	13	11	8.5	11	13	22	110	770	249	52	21
6	17	14	11	9.0	11	17	23	124	824	222	52	23
7	17	18	11	9.0	12	15	23	169	753	211	49	23
8	17	18	11	9.5	11	14	22	229	860	257	62	22
9	17	17	11	9.5	9.5	14	24	241	1020	225	58	33
10	17	17	11	11	9.5	13	30	225	1130	200	50	68
11	17	16	11	10	10	17	33	222	1080	184	45	112
12	18	14	11	10	10	16	29	211	1080	169	43	62
13	17	13	10	10	10	14	23	163	1040	152	43	49
14	17	13	10	11	11	15	26	163	950	155	43	42
15	17	13	10	11	12	16	30	163	788	135	46	38
16	17	13	10	11	11	16	34	148	719	121	42	33
17	16	13	10	10	11	17	43	150	728	110	36	30
18	16	16	10	11	11	17	58	160	788	102	33	28
19	16	15	10	11	11	18	85	181	788	97	31	25
20	17	13	10	10	11	18	106	270	744	91	29	23
21	24	11	10	10	11	18	124	350	632	82	28	22
22	18	11	11	9.5	10	19	140	488	603	80	26	21
23	15	9.5	11	9.5	10	19	160	596	596	80	56	20
24	16	9.0	10	9.5	9.5	20	148	603	603	76	61	19
25	17	10	10	9.5	10	20	112	488	575	78	69	19
26	17	12	11	11	10	19	91	433	547	70	53	19
27	16	10	12	11	11	19	78	463	520	66	45	19
28	15	9.5	8.0	12	12	19	80	534	494	61	39	19
29	15	9.0	8.0	12	13	19	102	547	439	56	35	19
30	15	9.0	8.0	12	---	19	117	547	421	59	33	18
31	12	---	8.0	10	---	19	---	589	---	67	32	---
TOTAL	528	384.0	316.0	310.5	310.5	507	1836	8942	21930	4836	1430	928
MEAN	17.0	12.8	10.2	10.0	10.7	16.4	61.2	288	731	156	46.1	30.9
MAX	24	18	12	12	13	20	160	603	1130	393	69	112
MIN	12	9.0	8.0	8.0	9.5	11	16	85	421	56	26	18
AC-FT	1050	762	627	616	616	1010	3640	17740	43500	9590	2840	1840

CAL YR 1979 TOTAL 53132.5 MEAN 146 MAX 1120 MIN 8.0 AC-FT 105400
WTR YR 1980 TOTAL 42258.0 MEAN 115 MAX 1130 MIN 8.0 AC-FT 83820

NOTE.--NO GAGE-HEIGHT RECORD NOV. 19 TO MAR. 5.

08238000 LA JARA CREEK AT GALLEGOS RANCH, NEAR CAPULIN, CO

LOCATION.--Lat 37°12'32", long 106°11'16", in NE¼ sec.10, T.34 N., R.7 E., Conejos County, Hydrologic Unit 13010002, on left bank 2.7 mi (4.3 km) downstream from Canyon Del Rancho, 7 mi (11 km) southwest of Capulin, and 16.5 mi (26.5 km) downstream from La Jara Reservoir.

DRAINAGE AREA.--98 mi² (250 km²), approximately.

PERIOD OF RECORD.--April 1916 to November 1917, April 1919 to November 1923, May 1936 to current year. No winter records prior to 1950 except water year 1944. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1242: Drainage area. WSP 1732: 1952.

GAGE.--Water-stage recorder. Altitude of gage is 8,130 ft (2,478 m), from topographic map. Apr. 1, 1916, to Nov. 30, 1917, and Apr. 1, 1919, to Nov. 30, 1923, near present site at different datum.

REMARKS.--Records good except those for winter period, which are poor. Small diversions above station for irrigation. Flow regulated by La Jara Reservoir, capacity, 14,040 acre-ft (17.3 hm³). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--32 years (water years 1944, 1950-80), 15.5 ft³/s (0.439 m³/s), 11,230 acre-ft/yr (13.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 653 ft³/s (18.5 m³/s) Apr. 22, 1919, gage height, 3.22 ft (0.981 m), site and datum then in use, Apr. 15, 1937, gage height, 5.94 ft (1.811 m); maximum gage height, 6.12 ft (1.865 m) Aug. 11, 1961; minimum daily discharge, 2.0 ft³/s (0.057 m³/s) Jan. 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 222 ft³/s (6.29 m³/s) at 0230 May 9, gage height, 4.03 ft (1.228 m); minimum daily, 3.5 ft³/s (0.099 m³/s) Jan. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	6.2	4.5	4.0	7.5	8.5	8.5	56	68	21	7.5	5.6
2	5.4	6.2	4.5	4.5	8.5	9.5	9.0	52	62	22	7.5	5.6
3	5.4	8.2	5.5	3.5	8.5	9.0	9.0	64	58	21	6.8	5.4
4	5.4	9.0	5.5	4.5	9.0	8.5	9.2	94	66	17	6.6	5.4
5	5.4	8.8	5.5	4.5	8.5	8.5	9.5	128	64	15	7.0	5.6
6	5.4	8.5	5.5	5.0	8.5	10	9.8	130	60	15	7.2	5.8
7	5.4	8.5	5.5	5.5	9.0	9.5	9.8	136	54	16	6.6	6.0
8	5.4	8.5	6.0	6.0	8.0	9.0	9.5	159	52	15	6.8	6.0
9	5.4	8.2	6.0	6.0	7.5	9.0	9.8	155	52	13	9.0	6.4
10	5.4	8.0	6.0	7.0	8.0	9.5	10	130	51	12	7.2	7.5
11	5.4	7.2	6.5	6.5	8.0	11	11	128	48	9.8	6.6	6.8
12	5.6	6.0	6.5	6.5	8.0	11	11	125	43	8.8	6.6	6.2
13	5.6	5.5	6.0	7.0	8.5	9.5	9.8	88	39	8.2	6.6	6.0
14	5.6	6.0	5.5	7.5	9.5	10	9.8	90	36	8.2	6.6	6.0
15	5.6	6.5	6.0	7.5	10	9.5	10	94	34	8.0	6.8	6.0
16	5.6	6.5	6.5	7.0	9.5	9.5	11	90	32	8.0	6.4	6.0
17	5.6	6.5	6.0	7.5	9.0	8.5	12	90	30	8.0	6.2	6.0
18	5.4	7.5	5.5	7.5	10	9.0	12	95	28	7.8	6.2	5.8
19	5.2	7.0	5.5	7.5	10	9.5	13	105	27	7.8	6.0	5.8
20	5.2	6.0	6.0	7.0	9.5	9.5	14	115	26	7.8	6.0	5.6
21	6.4	5.0	6.5	6.5	9.0	9.5	18	125	26	7.8	6.0	5.6
22	6.2	5.0	7.0	6.0	8.5	10	33	130	24	7.8	6.0	6.0
23	6.0	4.5	7.0	5.5	8.0	9.5	45	140	24	8.0	6.4	6.0
24	6.0	4.5	6.0	6.0	7.5	9.0	48	131	23	8.0	6.8	6.0
25	6.2	5.5	6.5	6.5	8.0	9.0	26	100	23	8.2	7.0	6.2
26	6.2	6.5	7.0	7.5	8.5	9.0	26	105	22	8.2	6.4	6.2
27	6.2	5.5	7.5	8.0	9.0	9.0	28	91	22	8.0	6.0	6.6
28	6.0	4.5	5.5	8.0	9.5	8.5	40	88	22	8.0	5.8	6.6
29	6.2	4.0	4.5	8.0	9.5	9.5	56	85	22	7.5	5.8	6.6
30	6.6	4.0	4.0	8.0	---	9.5	64	80	21	8.0	5.8	6.4
31	6.6	---	4.0	7.0	---	9.0	---	78	---	7.8	5.8	---
TOTAL	177.4	193.8	180.0	199.0	252.5	289.5	591.7	3277	1159	336.7	204.0	181.7
MEAN	5.72	6.46	5.81	6.42	8.71	9.34	19.7	106	38.6	10.9	6.58	6.06
MAX	6.6	9.0	7.5	8.0	10	11	64	159	68	22	9.0	7.5
MIN	5.2	4.0	4.0	3.5	7.5	8.5	8.5	52	21	7.5	5.8	5.4
AC-FT	352	384	357	395	501	574	1170	6500	2300	668	405	360

CAL YR 1979 TOTAL 6295.9 MEAN 17.2 MAX 130 MIN 3.0 AC-FT 12490
WTR YR 1980 TOTAL 7042.3 MEAN 19.2 MAX 159 MIN 3.5 AC-FT 13970

NOTE.--NO GAGE-HEIGHT RECORD NOV. 28 TO MAR. 5.

08238350 YELLOW WARBLER RESERVOIR INFLOW NEAR ANTONITO, CO

LOCATION.--Lat 38°06'00", long 106°06'44", in NE¼SE¼ sec.17, T.33 N., R.8 E., Conejos County, Hydrologic Unit 13010002, on left bank, 400 ft (122 m) upstream from Yellow Warbler Dam, 0.4 mi (0.6 km) south of the geologic basin known as The Poso, and 6.0 mi (9.7 km) west of Antonito.

DRAINAGE AREA.--0.18 mi^2 (0.47 km^2).

PERIOD OF RECORD.--June 1979 to September 1980 (seasonal record only).

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 8,380 ft (2,554 m), from topographic map.

REMARKS.--Records good. Recording rain gage in basin upstream. This station is designed to evaluate rainfall runoff from a small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--No flow for 1979-80.

08238380 TURKEY RESERVOIR INFLOW NEAR CONEJOS, CO

LOCATION.--Lat 37°08'16", long 106°06'41", in SE¼SE¼ sec.32, T.34 N., R.8 E., Conejos County, Hydrologic Unit 13010002, on left bank 300 ft (91 m) upstream from Turkey Dam, 0.4 mi (0.6 km) upstream from mouth at the geologic basin known as The Poso, and 6.2 mi (10.0 km) northwest of Conejos.

DRAINAGE AREA.--0.24 mi^2 (0.62 km^2).

PERIOD OF RECORD.--June 1979 to September 1980 (seasonal record only).

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 8,280 ft (2,524 m), from topographic map.

REMARKS.--Records good. Recording rain gage in basin upstream. This station is designed to evaluate rainfall runoff from small drainage area into a small channel reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 0.27 ft^3/s (0.008 m^3/s) July 28, 1979, gage height, 0.14 ft (0.043 m); no flow most of time.

EXTREMES FOR CURRENT YEAR.--No flow entire period.

08238400 BOBOLINK RESERVOIR NEAR CONEJOS, CO

LOCATION.--Lat 37°09'10", long 106°10'18", in SW¼SE¼ sec.26, T.34 N., R.7 E., Conejos County, Hydrologic Unit 13010002, on top of earthfill dam near Center, 0.7 mi (1.1 km) southeast of Flat Top Mountain, 5.3 mi (8.5 km) north of Los Mogotes Peaks and 9.4 mi (15.1 km) northwest of Conejos.

DRAINAGE AREA.--0.23 mi^2 (0.59 km^2).

PERIOD OF RECORD.--June 1979 to September 1980 (seasonal record only).

GAGE.--Water-stage recorder. Altitude of gage is 8,800 ft (2,682 m), from topographic map.

REMARKS.--Records fair. Reservoir is formed by an earthfill dam. Storage occurs intermittenly from storm runoff. Maximum storage is 1.0 acre-ft (1,233 m^3) at a spillway gage height of 7.1 ft (2.16 m). No contents occur at a gage height of 3.42 ft (1.04 m). This dam forms a small channel reservoir for controlling heavy runoff and to help control sedimentation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents for period June 7 to Nov. 6, 1979, and Apr. 24 to Sept. 30, 1980, 0.03 acre-ft (37 m^3), gage height, 4.15 ft (1.265 m) Apr. 24, 1980, on a recession of a higher peak from snow melt; no contents most of time.

08240000 RIO GRANDE ABOVE MOUTH OF TRINCHERA CREEK, NEAR LASAUSES, CO

LOCATION.--Lat 37°18'58", long 105°44'32", in sec.35, T.36 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank 0.2 mi (0.3 km) upstream from Trinchera Creek, 3.2 mi (5.1 km) north of Lasauses, and 13 mi (21 km) southeast of Alamosa.

DRAINAGE AREA.--5,740 mi² (14,900 km²), approximately, includes 2,940 mi² (7,610 km²) in closed basin in northern part of San Luis Valley, Colo.

PERIOD OF RECORD.--May 1936 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,500 ft (2,286 m), estimated from nearby level lines.

REMARKS.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--44 years, 244 ft³/s (6.910 m³/s), 176,800 acre-ft/yr (218 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,470 ft³/s (155 m³/s) June 21, 1949, gage height, 9.50 ft (2.896 m), from rating curve extended above 3,600 ft³/s (100 m³/s); minimum daily, 0.4 ft³/s (0.011 m³/s) July 4, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,720 ft³/s (48.7 m³/s) at 0500 June 13, gage height, 6.32 ft (1.925 m); minimum daily, 6.8 ft³/s (0.19 m³/s) Sept. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	66	95	175	225	318	278	429	1370	340	53	11
2	35	79	100	180	220	295	285	477	1270	328	50	10
3	35	104	110	185	220	298	282	468	1270	410	49	8.4
4	34	112	115	195	225	305	285	492	1280	459	48	7.4
5	34	101	120	205	225	298	280	489	1250	510	38	6.8
6	34	93	115	210	225	295	285	498	1270	489	50	6.8
7	34	91	115	210	225	290	292	558	1320	450	53	7.1
8	35	94	120	215	230	295	300	674	1410	468	57	7.1
9	34	93	125	220	230	282	302	811	1440	444	50	8.0
10	34	103	145	230	220	280	290	906	1420	398	48	10
11	34	86	135	230	220	280	302	870	1500	335	51	11
12	34	86	140	230	215	268	315	883	1640	239	46	16
13	34	86	150	225	215	268	325	910	1650	195	36	73
14	35	86	145	226	220	270	312	842	1340	182	25	45
15	35	84	140	231	226	275	310	870	1220	159	21	25
16	36	83	140	240	239	275	322	930	1100	144	18	19
17	37	85	140	250	253	278	350	901	896	135	16	16
18	38	89	140	251	278	282	388	793	757	118	15	16
19	38	79	140	248	308	270	418	806	603	104	15	15
20	41	73	140	251	318	270	465	802	561	133	13	15
21	45	62	140	251	318	268	561	816	516	112	12	14
22	47	65	150	235	298	272	614	888	423	111	11	14
23	50	70	165	220	302	285	395	1120	405	107	12	14
24	82	88	160	210	280	308	395	1300	408	94	12	14
25	73	97	150	210	272	302	438	1420	423	85	11	14
26	76	108	155	215	280	290	412	1480	420	78	64	14
27	73	80	159	220	302	298	310	1420	420	76	64	14
28	71	85	160	225	320	300	335	1370	426	68	35	14
29	68	85	165	225	320	298	322	1370	441	63	24	14
30	68	90	165	225	---	288	348	1380	382	59	17	13
31	66	---	170	230	---	290	---	1420	---	56	14	---
TOTAL	1425	2603	4309	6873	7429	8891	10516	28393	28831	6949	1028	472.6
MEAN	46.0	86.8	139	222	256	287	351	916	961	224	33.2	15.8
MAX	82	112	170	251	320	318	614	1480	1650	510	64	73
MIN	34	62	95	175	215	268	278	429	382	56	11	6.8
AC-FT	2830	5160	8550	13630	14740	17640	20860	56320	57190	13780	2040	937

CAL YR 1979 TOTAL 189944.0 MEAN 520 MAX 2760 MIN 34 AC-FT 376800
WTR YR 1980 TOTAL 107719.6 MEAN 294 MAX 1650 MIN 6.8 AC-FT 213700

08240500 TRINCHERA CREEK ABOVE TURNERS RANCH, NEAR FORT GARLAND, CO

LOCATION.--Lat 37°22'29", long 105°17'40", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on right bank 0.9 mi (1.4 km) downstream from North Fork, 1.0 mi (1.6 km) upstream from Turners Ranch, and 8.3 mi (13.4 km) southeast of Fort Garland.

DRAINAGE AREA.--45 mi² (120 km²), approximately.

PERIOD OF RECORD.--April 1923 to current year. No winter records prior to 1935 except water year 1928. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 8,520 ft (2,597 m), from topographic map. Prior to Apr. 12, 1929, at site 200 ft (60 m) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. No regulation or diversion above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--47 years (1928, 1935-80), 22.6 ft³/s (0.640 m³/s), 16,370 acre-ft/yr (20.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 689 ft³/s (19.5 m³/s) May 27, 1942, gage height, 3.32 ft (1.012 m), from rating curve extended above 240 ft³/s (6.8 m³/s); maximum gage height, 3.73 ft (1.137 m) May 10, 1947; minimum daily discharge recorded, 3.0 ft³/s (0.085 m³/s) Oct. 3, 1942.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and in October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in October 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 230 ft³/s (6.51 m³/s) at 0300 June 12, gage height, 3.11 ft (0.948 m), only peak above base of 50 ft³/s (1.4 m³/s); minimum daily, 7.0 ft³/s (0.20 m³/s) Mar. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	11	7.5	10	7.0	8.2	20	136	67	21	11
2	12	13	11	7.5	11	7.5	8.2	18	138	63	21	11
3	12	13	12	8.0	11	7.5	8.2	19	134	60	21	11
4	12	13	12	8.0	11	7.5	8.6	21	135	56	20	11
5	12	12	12	8.0	11	7.5	8.6	24	144	53	19	11
6	12	13	12	8.5	11	7.6	8.6	30	156	50	18	12
7	11	12	12	9.0	10	7.6	8.2	37	159	50	18	12
8	11	13	12	9.0	9.0	8.6	8.5	39	159	47	18	12
9	11	13	12	9.0	9.5	8.6	9.0	39	178	44	20	15
10	11	12	13	9.0	10	9.3	9.0	40	201	44	17	14
11	11	12	13	9.0	10	9.3	9.0	43	213	44	16	13
12	11	12	12	11	11	9.3	8.5	44	215	41	16	12
13	11	12	11	13	11	10	9.0	43	201	39	18	12
14	11	13	11	13	11	10	9.5	42	189	37	18	12
15	11	13	12	11	11	10	10	42	180	36	17	12
16	11	13	12	10	11	10	12	42	159	33	16	11
17	11	14	11	10	11	10	12	42	150	31	16	11
18	11	14	11	10	12	12	14	43	140	31	15	11
19	11	13	11	10	11	9.3	16	49	134	29	14	10
20	11	13	12	10	9.0	9.3	18	57	125	28	13	10
21	12	10	13	9.5	9.5	9.6	18	75	119	28	13	9.6
22	11	9.0	13	9.0	9.0	10	19	90	109	28	13	10
23	12	9.0	10	9.0	7.5	10	20	107	105	28	13	9.6
24	12	9.0	11	9.5	7.5	11	17	126	100	25	14	9.6
25	12	12	12	10	7.5	9.6	13	135	94	24	16	9.6
26	12	12	12	11	8.0	10	20	125	90	23	13	9.6
27	12	11	12	11	8.5	9.0	20	121	87	23	13	9.6
28	12	10	9.0	12	9.0	9.3	20	129	82	21	13	9.6
29	11	9.5	7.5	12	8.0	8.6	20	128	76	21	12	9.6
30	9.6	9.5	7.5	10	---	8.6	20	129	70	20	12	9.6
31	10	---	7.5	10	---	7.6	---	134	---	20	11	---
TOTAL	351.6	357.0	349.5	303.5	286.0	281.2	390.1	2033	4178	1144	495	330.4
MEAN	11.3	11.9	11.3	9.79	9.86	9.07	13.0	65.6	139	36.9	16.0	11.0
MAX	12	14	13	13	12	12	20	135	215	67	21	15
MIN	9.6	9.0	7.5	7.5	7.5	7.0	8.2	18	70	20	11	9.6
AC-FT	697	708	693	602	567	558	774	4030	8290	2270	982	655

CAL YR 1979 TOTAL 12960.0 MEAN 35.5 MAX 217 MIN 5.0 AC-FT 25710
WTR YR 1980 TOTAL 10499.3 MEAN 28.7 MAX 215 MIN 7.0 AC-FT 20830

NOTE.--NO GAGE-HEIGHT RECORD NOV. 23 TO MAR. 5.

08241500 SANGRE DE CRISTO CREEK NEAR FORT GARLAND, CO

LOCATION.--Lat 37°25'30", long 105°24'52", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on left bank at road bridge, 2,200 ft (670 m) upstream from Garland Canal, 1.0 mi (1.6 km) east of Fort Garland, and 6.3 mi (10.1 km) upstream from Ute Creek.

DRAINAGE AREA.--190 mi² (490 km²), approximately.

PERIOD OF RECORD.--March to October 1916, May 1923 to September 1930, October 1931 to current year. No winter records prior to 1946 except water year 1941. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1935(M), 1950(M).

GAGE.--Water-stage recorder. Altitude of gage is 7,900 ft (2,408 m), from topographic map. Mar. 15 to Oct. 9, 1916, nonrecording gage and Cippoletti weir at site 1,400 ft (430 m) downstream at different datum. May 7, 1923, to Feb. 29, 1964, water-stage recorder at site 1.0 mi (1.6 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are poor. Diversions above station by Sangre de Cristo-Trinchera canal for irrigation below station. Diversion above station from west Indian Creek to Mountain Home Reservoir on Trinchera Creek. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--36 years (water years 1941, 1946-80), 18.6 ft³/s (0.527 m³/s), 13,480 acre-ft/yr (16.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,520 ft³/s (43.0 m³/s) Aug. 31, 1936, gage height, 6.10 ft (1.859 m), site and datum then in use, from rating curve extended above 280 ft³/s (7.9 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 7.82 ft (2.384 m) June 4, 1957, site and datum then in use; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and in October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in October 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 452 ft³/s (12.8 m³/s) at 1800 May 24, gage height, 5.33 ft (1.625 m); minimum daily, 4.1 ft³/s (0.116 m³/s) Oct. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	8.5	7.5	7.0	9.5	13	9.8	87	258	33	18	6.6
2	4.4	8.5	7.5	8.0	9.5	14	10	80	239	34	17	6.6
3	4.1	8.2	9.0	6.5	10	15	11	82	218	32	19	6.6
4	4.1	10	9.0	8.0	11	14	12	92	205	30	17	6.2
5	4.7	10	9.0	8.0	10	12	14	122	194	30	16	6.2
6	4.7	9.3	9.0	8.5	10	14	15	164	171	29	16	7.0
7	5.0	10	9.0	9.0	12	12	15	239	161	30	16	7.0
8	5.0	11	9.5	9.5	10	10	12	296	144	30	15	7.0
9	5.0	13	9.0	9.7	9.0	12	14	332	123	28	16	11
10	5.3	12	9.0	9.7	9.0	12	14	331	117	28	15	16
11	5.6	9.7	9.5	9.7	9.0	14	18	343	126	27	14	14
12	5.3	9.0	9.5	9.7	9.0	10	14	350	155	30	16	10
13	5.6	7.5	8.5	10	10	9.5	16	304	145	29	16	9.7
14	5.9	7.0	8.0	11	12	11	17	268	123	29	16	9.3
15	6.2	7.5	8.5	11	14	14	20	282	115	28	20	8.9
16	5.9	8.0	9.5	10	14	14	24	292	110	26	16	8.5
17	6.2	8.5	9.0	10	14	9.5	27	281	100	25	14	7.5
18	6.6	10	8.5	12	14	9.5	32	297	88	24	12	7.0
19	7.0	8.5	8.5	10	17	12	40	303	80	25	12	6.6
20	6.6	8.5	8.5	10	17	12	50	318	62	25	10	5.6
21	8.1	7.5	9.0	10	11	12	56	350	49	24	10	5.3
22	9.3	7.5	9.3	10	12	14	64	380	49	24	9.3	5.3
23	8.9	7.0	9.3	10	10	12	78	425	48	25	9.3	6.2
24	9.3	7.0	8.0	10	10	10	79	444	46	24	10	7.3
25	10	8.5	8.5	10	11	14	57	441	44	25	12	7.3
26	9.7	10	9.5	11	11	10	66	402	42	22	12	7.7
27	8.9	9.0	10	12	12	14	65	352	39	20	11	8.1
28	8.5	8.0	7.0	10	14	12	70	313	37	20	8.9	8.1
29	8.5	7.0	7.0	11	15	12	78	309	35	19	8.1	8.1
30	8.9	7.0	7.0	9.7	---	10	84	292	33	18	7.7	7.7
31	7.1	---	7.0	9.0	---	12	---	275	---	19	7.3	---
TOTAL	204.8	263.2	267.1	300.0	336.0	375.5	1081.8	8846	3356	812	416.6	238.4
MEAN	6.61	8.77	8.62	9.68	11.6	12.1	36.1	285	112	26.2	13.4	7.95
MAX	10	13	10	12	17	15	84	444	258	34	20	16
MIN	4.1	7.0	7.0	6.5	9.0	9.5	9.8	80	33	18	7.3	5.3
AC-FT	406	522	530	595	666	745	2150	17550	6660	1610	826	473

CAL YR 1979 TOTAL 8530.1 MEAN 23.4 MAX 147 MIN 3.0 AC-FT 16920
WTR YR 1980 TOTAL 16497.4 MEAN 45.1 MAX 444 MIN 4.1 AC-FT 32720

08242500 UTE CREEK NEAR FORT GARLAND, CO

LOCATION.--Lat 37°26'50", long 105°25'30", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on left bank 2,300 ft (700 m) upstream from Newton ditch, 1.4 mi (2.3 km) north of Fort Garland, and 5.7 mi (9.2 km) upstream from mouth.

DRAINAGE AREA.--32 mi^2 (83 km^2), approximately.

PERIOD OF RECORD.--March to October 1916, May 1923 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 8,045 ft (2,452 m), from topographic map. Mar. 18 to Oct. 9, 1916, nonrecording gage and Cippoletti weir at different datum.

REMARKS.--Records good except those for winter period, which are poor. A few diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--57 years (water years 1924-80), 20.0 ft^3/s (0.566 m^3/s), 14,490 acre-ft/yr (17.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 630 ft^3/s (17.8 m^3/s) May 15, 1941; no flow July 28-31, Sept. 6-29, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and in October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in October 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 210 ft^3/s (5.95 m^3/s) at 0400 June 12, gage height, 3.25 ft (0.991 m), only peak above base of 100 ft^3/s (2.8 m^3/s); minimum daily, 4.5 ft^3/s (0.127 m^3/s) Oct. 15-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	6.6	6.0	5.5	6.0	6.5	5.4	34	89	91	23	9.3
2	6.8	6.1	6.0	5.5	6.0	7.0	5.0	31	86	95	24	8.7
3	6.8	6.1	6.5	6.0	6.5	7.0	6.1	29	87	83	22	8.1
4	6.8	7.0	6.5	6.0	6.5	7.0	6.6	34	94	73	21	7.8
5	6.4	6.6	6.5	6.0	6.0	7.0	7.8	41	104	66	21	7.8
6	5.9	6.6	6.5	6.0	6.0	6.1	7.5	44	113	61	22	8.4
7	5.4	6.8	6.5	6.0	5.5	5.7	6.5	48	104	61	19	9.3
8	5.4	7.0	6.5	6.0	5.0	5.2	6.5	70	111	59	21	9.0
9	5.4	8.1	6.5	6.0	5.0	5.4	7.5	67	135	61	22	13
10	5.4	7.5	7.0	5.9	5.0	5.2	8.0	63	165	53	18	22
11	4.8	5.9	7.0	6.1	5.5	5.7	7.5	65	188	51	17	27
12	4.8	5.5	6.5	6.1	5.5	5.2	6.5	65	188	43	16	19
13	4.8	5.5	6.0	6.1	5.5	5.0	7.0	59	173	42	18	16
14	4.8	6.0	6.0	6.6	6.5	6.0	8.0	57	149	43	20	15
15	4.5	6.5	6.5	6.6	6.5	6.8	8.7	71	131	38	19	14
16	4.5	7.0	6.5	6.5	6.5	5.4	10	62	119	34	16	12
17	4.5	7.0	6.0	6.1	6.5	5.0	12	57	115	31	16	10
18	5.4	6.1	6.0	6.1	7.0	6.1	16	55	123	28	15	9.6
19	5.7	6.1	6.0	5.9	7.0	6.4	18	57	121	30	13	8.7
20	5.4	6.1	6.0	6.4	6.0	6.1	22	67	108	30	13	8.1
21	7.5	6.4	6.0	5.7	6.5	6.4	25	77	110	30	12	7.8
22	6.8	5.9	6.0	5.0	6.5	6.6	28	99	102	32	11	7.5
23	7.8	5.4	5.0	5.0	6.0	5.4	30	123	92	38	12	7.8
24	9.3	5.5	5.5	5.5	6.0	6.8	28	123	97	44	12	7.3
25	7.8	6.0	6.6	6.0	6.5	6.1	22	113	111	46	16	7.0
26	7.5	6.5	6.1	6.5	7.0	5.9	22	99	110	34	15	7.0
27	6.8	6.0	5.7	6.5	7.5	6.8	21	87	110	28	14	7.0
28	6.4	5.5	5.9	7.0	7.0	6.4	24	87	101	26	12	7.0
29	6.6	5.5	5.2	7.0	6.5	5.9	28	86	91	25	11	6.4
30	5.0	5.5	5.4	6.0	---	6.1	32	86	94	24	11	5.2
31	5.2	---	5.2	6.0	---	5.4	---	89	---	23	9.9	---
TOTAL	187.0	188.3	189.6	187.6	179.5	187.6	442.6	2145	3521	1423	511.9	312.8
MEAN	6.03	6.28	6.12	6.05	6.19	6.05	14.8	69.2	117	45.9	16.5	10.4
MAX	9.3	8.1	7.0	7.0	7.5	7.0	32	123	188	95	24	27
MIN	4.5	5.4	5.0	5.0	5.0	5.0	5.0	29	86	23	9.9	5.2
AC-FT	371	373	376	372	356	372	878	4250	6980	2820	1020	620

CAL YR 1979 TOTAL 10550.2 MEAN 28.9 MAX 149 MIN 2.5 AC-FT 20930
WTR YR 1980 TOTAL 9475.9 MEAN 25.9 MAX 188 MIN 4.5 AC-FT 18800

NOTE.--NO GAGE-HEIGHT RECORD JAN. 22 TO MAR. 5.

08243500 TRINCHERA CREEK BELOW SMITH RESERVOIR, NEAR BLANCA, CO

LOCATION.--Lat 37°23'10", long 105°33'02", in sec.4, T.31 S., R.73 W. (unsurveyed), Costilla County, Hydrologic Unit 13010002, on right bank 150 ft (46 m) downstream from bridge, 0.6 mi (1.0 km) downstream from Smith Reservoir, and 4.0 mi (6.4 km) southwest of Blanca.

DRAINAGE AREA.--396 mi² (1,026 km²).

PERIOD OF RECORD.--October 1928 to current year. No winter records prior to 1944 except water years 1931, 1934-36, 1938. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1512: 1937, 1950(M).

GAGE.--Water-stage recorder. Altitude of gage is 7,700 ft (2,347 m), estimated from nearby U.S. Coast and Geodetic Survey level lines. Prior to Oct. 12, 1964, at site 200 ft (61 m) downstream. Prior to Apr. 19, 1943, at datum 1.00 ft (0.305 m) higher, and at present datum thereafter.

REMARKS.--Records good. Diversions above station for irrigation. Flow regulated by Smith Reservoir, capacity, 5,335 acre-ft (6.58 hm³). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--42 years (1930-31, 1933-36, 1937-38, 1943-80), 10.6 ft³/s (0.300 m³/s), 7,680 acre-ft/yr (9.469 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,340 ft³/s (37.9 m³/s) May 11, 1942; no flow Sept. 13, 14, 16, 17, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred in 1886 and October 1911. The flood in 1886 probably exceeded that in October 1911 and the flood in 1911 probably exceeded all subsequent floods, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 443 ft³/s (12.5 m³/s) at 0400 May 26, gage height, 5.77 ft (1.759 m); minimum daily, 0.80 ft³/s (0.023 m³/s) Oct. 31-Nov. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	.80	1.4	1.6	1.6	1.6	1.8	107	232	9.0	2.5	6.2
2	5.2	.80	1.4	1.6	1.6	1.6	1.8	108	219	8.6	2.5	6.2
3	5.5	.80	1.4	1.6	1.6	1.6	1.8	103	204	7.8	2.5	6.2
4	5.2	.80	1.4	1.6	1.6	1.6	2.0	100	185	6.6	2.5	6.2
5	5.8	.80	1.4	1.6	1.8	1.6	2.5	116	172	5.5	2.5	6.2
6	9.5	.80	1.4	1.6	1.8	1.6	3.6	134	163	4.8	2.5	8.2
7	12	.80	1.4	1.6	1.8	1.6	4.4	159	151	4.4	2.5	9.5
8	14	.80	1.4	1.6	1.8	1.6	5.2	193	142	4.4	2.2	9.5
9	14	1.0	1.4	1.6	1.8	1.6	5.8	242	126	4.2	2.2	9.5
10	12	1.0	1.4	1.6	1.8	1.6	6.6	284	134	3.9	2.2	9.0
11	10	1.0	1.4	1.6	1.8	1.6	15	297	150	3.0	2.2	9.0
12	7.8	1.4	1.4	1.6	1.8	1.6	17	315	164	2.2	2.0	9.0
13	7.4	1.4	1.4	1.6	1.8	1.6	8.2	330	175	2.0	2.0	9.0
14	7.0	1.4	1.4	1.6	1.8	1.6	8.6	292	156	2.0	2.0	9.0
15	6.6	1.4	1.4	1.6	1.8	1.8	9.5	269	137	2.0	2.0	9.0
16	7.4	1.2	1.4	1.6	1.8	1.8	12	269	119	2.0	2.0	9.0
17	7.8	1.2	1.4	1.6	1.8	1.6	16	273	94	2.0	2.0	9.0
18	3.9	1.2	1.4	1.6	1.8	1.8	19	273	76	2.0	4.0	8.2
19	3.6	1.2	1.4	1.6	1.8	1.8	25	277	70	2.0	7.0	8.2
20	3.9	1.2	1.4	1.6	1.8	2.0	34	260	66	2.0	6.6	8.2
21	3.9	1.2	1.6	1.6	1.8	2.0	47	255	58	2.0	6.2	8.2
22	3.3	1.2	1.6	1.6	1.8	3.0	61	281	52	2.0	6.2	8.2
23	2.0	1.2	1.6	1.6	1.8	2.5	70	333	46	2.0	6.2	8.2
24	1.8	1.2	1.6	1.6	1.6	2.0	96	389	39	2.2	6.2	9.0
25	1.8	1.2	1.6	1.6	1.6	2.0	98	425	36	2.2	6.2	9.0
26	1.8	1.2	1.6	1.6	1.6	2.0	73	431	27	2.2	6.2	9.0
27	1.8	1.2	1.6	1.6	1.6	2.0	71	385	20	2.5	6.2	9.0
28	1.8	1.2	1.6	1.6	1.6	1.8	67	330	13	2.5	6.2	9.0
29	1.8	1.2	1.6	1.6	1.6	1.8	68	289	12	2.5	6.2	9.0
30	1.2	1.2	1.6	1.6	---	1.8	79	268	10	2.5	6.2	8.6
31	.80	---	1.6	1.6	---	1.8	---	248	---	2.5	6.2	---
TOTAL	175.80	33.00	45.6	49.6	50.2	55.9	929.8	8035	3248	105.5	124.1	251.5
MEAN	5.67	1.10	1.47	1.60	1.73	1.80	31.0	259	108	3.40	4.00	8.38
MAX	14	1.4	1.6	1.6	1.8	3.0	98	431	232	9.0	7.0	9.5
MIN	.80	.80	1.4	1.6	1.6	1.6	1.8	100	10	2.0	2.0	6.2
AC-FT	349	65	90	98	100	111	1840	15940	6440	209	246	499

CAL YR 1979 TOTAL 4512.24 MEAN 12.4 MAX 125 MIN .09 AC-FT 8950
WTR YR 1980 TOTAL 13104.00 MEAN 35.8 MAX 431 MIN .80 AC-FT 25990

08244500 PLATORO RESERVOIR AT PLATORO, CO

LOCATION.--Lat 37°21'07", long 106°32'38", Conejos County, Hydrologic Unit 13010005, on right bank in valvehouse, 400 ft (120 m) downstream from Platoro Dam on Conejos River and 0.7 mi (1.1 km) west of Platoro.

DRAINAGE AREA.--40 mi² (104 km²), approximately.

PERIOD OF RECORD.--November 1951 to current year.

GAGE.--Nonrecording gage. Datum of gage is 9,911.5 ft (3,021.03 m), National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service); gage readings have been reduced to elevations NGVD. Prior to June 9, 1955, nonrecording gage at present site and datum. June 9, 1955 to Sept. 30, 1959, water-stage recorder in gate chamber at dam for elevations above 9,921.0 ft (3,023.92 m) at same datum.

REMARKS.--Reservoir is formed by an earth and rockfill dam and dikes. Dam completed Dec. 9, 1951; storage began Nov. 7, 1951. Capacity of reservoir (based on revised capacity table put in use Jan. 1, 1975), 59,570 acre-ft (73.4 hm³) between elevations 9,911.5 ft (3,021.03 m), sill of trashrack at outlet, and 10,034.0 ft (3,058.36 m), crest of spillway. No dead storage. Reservoir is used for irrigation and flood control. Figures given are usable contents.

COOPERATION.--Records furnished by Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 61,420 acre-ft (75.7 hm³) June 9, 11, 1958, elevation, 10,035.5 ft (3,058.82 m); no contents for long periods in 1952-56.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,950 acre-ft (56.0 hm³) July 28, elevation, 10,015.5 ft (3,052.72 m); minimum contents, 14,050 acre-ft (17.3 hm³) May 17, elevation, 9,971.7 ft (3,039.37 m).

MONTHEND ELEVATION IN FEET NGVD AND CONTENTS, AT 1000, WATER YEAR OCTOBER 1979 TOSEPTEMBER 1980

Date	Elevation	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	9,999.7	30,760	-
Oct. 31	9,997.7	30,760	0
Nov. 30	(a)		
Dec. 31	(a)		
CAL YR 1979			-
Jan. 31	(a)		
Feb. 29	(a)		
Mar. 31	(a)		
Apr. 30	(a)		
May 31	9,972.2	14,250	-16,510
June 30	10,014.4	42,040	+27,790
July 31	10,007.3	36,370	-5,670
Aug. 31	9,982.4	19,690	-16,680
Sept. 30	9,982.3	19,630	-60
WTR YR 1980			-11,130

[a] Operation of reservoir suspended Dec. 17 (elevation, 9,999.3 ft; contents, 30,480 acre-ft); resumed Apr. 1.

08245000 CONEJOS RIVER BELOW PLATORO RESERVOIR, CO

LOCATION.--Lat 37°21'18", long 106°32'37", Conejos County, Hydrologic Unit 13010005, on left bank 1,100 ft (340 m) downstream from valvehouse for Platoro Reservoir and 0.7 mi (1.1 km) northwest of Platoro.

DRAINAGE AREA.--40 mi² (100 km²), approximately.

PERIOD OF RECORD.--May 1952 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 9,866.60 ft (3,007.340 m), National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service).

REMARKS.--Records good except those for period of no gage-height record, which are fair. No diversion above station. Flow completely regulated by Platoro Reservoir (station 08244500). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--28 years, 89.2 ft³/s (2.526 m³/s), 64,620 acre-ft/yr (79.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,160 ft³/s (32.9 m³/s) Nov. 1, 1957, gage height, 4.02 ft (1.225 m); maximum gage height, 4.29 ft (1.308 m) June 15, 1958; no flow Oct. 16-20, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 770 ft³/s (21.8 m³/s) at 1330 July 29, gage height, 3.53 ft (1.076 m); minimum daily, 2.0 ft³/s (0.06 m³/s) Oct. 10-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	6.0	5.0	5.0	5.0	15	15	627	494	482	434	20
2	5.0	5.8	5.0	5.0	5.0	15	15	510	422	482	422	22
3	5.0	5.8	5.4	5.0	5.0	15	15	418	454	532	422	23
4	5.0	5.8	5.7	5.0	10	15	15	414	586	506	402	23
5	5.0	5.2	5.7	5.0	15	15	15	414	542	312	402	27
6	5.0	5.0	5.7	5.0	15	15	15	410	304	343	434	18
7	5.0	5.0	5.7	5.0	15	15	15	326	197	382	406	15
8	5.0	5.0	5.7	5.0	15	15	15	259	200	402	398	11
9	3.5	5.0	5.7	5.0	15	15	15	221	203	422	406	38
10	2.0	5.0	8.8	5.0	15	15	15	194	78	354	402	91
11	2.0	5.0	12	5.0	15	15	15	116	7.8	301	402	161
12	2.0	5.0	12	5.0	15	15	15	69	7.8	266	398	147
13	2.0	5.0	12	5.0	15	15	15	60	60	224	418	80
14	2.0	5.0	12	5.0	15	15	15	71	93	209	414	42
15	2.0	5.0	12	5.0	15	15	15	86	93	233	402	28
16	2.0	5.0	12	5.0	15	15	15	76	200	224	402	24
17	2.0	5.0	8.5	5.0	15	15	36	30	332	123	398	24
18	2.0	5.0	5.0	5.0	15	15	78	40	378	76	398	24
19	2.0	4.8	5.0	5.0	15	15	111	109	382	76	394	24
20	2.0	5.0	5.0	5.0	15	15	111	215	386	139	398	25
21	2.2	5.0	5.0	5.0	15	15	314	252	386	216	382	25
22	5.2	5.0	5.0	5.0	15	15	494	150	386	402	390	25
23	8.1	5.0	5.0	5.0	15	15	490	52	390	418	418	24
24	13	5.0	5.0	5.0	15	15	490	79	390	458	252	18
25	17	5.0	5.0	5.0	15	15	568	164	394	454	51	12
26	12	5.0	5.0	5.0	15	15	640	326	394	450	53	12
27	6.7	5.0	5.0	5.0	15	15	636	458	398	446	47	12
28	6.7	5.0	5.0	5.0	15	15	636	582	398	442	21	12
29	6.7	5.0	5.0	5.0	15	15	636	622	402	395	7.4	9.9
30	6.7	5.0	5.0	5.0	---	15	632	618	446	426	12	7.8
31	6.4	---	5.0	5.0	---	15	---	568	---	442	18	---
TOTAL	156.2	153.4	208.9	155.0	400.0	465	6112	8536	9403.6	10637	9803.4	1024.7
MEAN	5.04	5.11	6.74	5.00	13.8	15.0	204	275	313	343	316	34.2
MAX	17	6.0	12	5.0	15	15	640	627	586	532	434	161
MIN	2.0	4.8	5.0	5.0	5.0	15	15	30	7.8	76	7.4	7.8
AC-FT	310	304	414	307	793	922	12120	16930	18650	21100	19450	2030

CAL YR 1979 TOTAL 38465.0 MEAN 105 MAX 765 MIN 2.0 AC-FT 76300
WTR YR 1980 TOTAL 47055.2 MEAN 129 MAX 640 MIN 2.0 AC-FT 93330

NOTE.--NO GAGE-HEIGHT RECORD NOV. 20 TO APR. 17.

08246500 CONEJOS RIVER NEAR MOGOTE, CO

LOCATION.--Lat 37°03'14", long 106°11'13", in SE¼SE¼ sec.34, T.33 N., R.7 E., Conejos County, Hydrologic Unit 13010005, on right bank 25 ft (8 m) upstream from bridge on State Highway 174, 0.4 mi (0.6 km) downstream from Fox Creek, 5.3 mi (8.5 km) west of Mogote, and 10 mi (16 km) west of Antonito.

DRAINAGE AREA.--282 mi^2 (730 km^2).

PERIOD OF RECORD.--April 1903 to October 1905, October 1911 to current year. Monthly discharge only for some periods, published in WSP 1312. Records for March 1900 at site 5.5 mi (8.8 km) upstream and May 1905 to September 1911 (some missing periods most years) at site 3.2 mi (5.1 km) upstream not equivalent to present site due to inflow.

REVISED RECORDS.--WSP 898: 1911(M). WSP 1312: 1903-5, 1913. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 8,271.54 ft (2,521.156 m) Colorado State Highway datum. Apr. 17, 1903, to Oct. 31, 1905, nonrecording gage 500 ft (150 m) downstream at different datum. Oct. 5, 1911, to early 1915, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 500 acres (2.0 km^2) of hay meadows above station. Some regulation by Platoro Reservoir (station 08244500). Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--71 years, 332 ft^3/s (9.402 m^3/s), 240,500 acre-ft/yr (297 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft^3/s (255 m^3/s) Oct. 5, 1911, gage height, 8.50 ft (2.591 m), from floodmarks, present site and datum, from rating curve extended above 3,100 ft^3/s (88 m^3/s); minimum daily determined, 10 ft^3/s (0.28 m^3/s) July 18, 1904.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854, that of Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,790 ft^3/s (79.0 m^3/s) at 0600 June 10, gage height, 5.09 ft (1.551 m); minimum daily, 32 ft^3/s (0.91 m^3/s) Nov. 13, 23, 24, Jan. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	44	40	46	40	62	53	1000	1690	1460	579	77
2	44	42	40	48	45	65	60	935	1580	1450	548	75
3	40	42	44	40	50	68	59	740	1510	1370	552	72
4	40	48	42	38	53	68	59	795	1790	1290	534	72
5	40	44	42	38	52	62	66	875	2050	1060	498	70
6	40	42	39	39	50	72	75	950	1970	875	530	75
7	40	46	40	39	55	66	72	1050	1610	905	534	75
8	40	48	42	39	53	62	66	1070	1740	955	489	68
9	40	42	42	39	48	62	77	1080	2090	930	561	77
10	40	38	40	40	49	64	88	955	2470	865	561	200
11	40	35	44	35	50	66	103	975	2110	735	512	336
12	40	33	45	38	52	64	91	850	2120	685	498	296
13	40	32	40	39	55	60	82	670	2020	606	516	215
14	40	35	40	42	59	66	82	660	1970	579	525	158
15	40	34	42	45	60	70	98	685	1770	543	512	114
16	40	38	44	39	59	72	131	628	1650	525	484	96
17	40	38	42	38	60	62	167	579	1740	464	464	88
18	42	42	40	40	62	66	226	588	2030	352	456	84
19	42	40	40	40	64	72	380	755	2140	320	444	77
20	42	38	40	38	62	72	436	1000	2120	316	440	72
21	57	34	40	35	57	77	521	1260	1920	372	440	72
22	53	34	42	33	53	75	895	1480	1870	520	424	70
23	48	32	39	32	52	72	990	1420	1810	566	464	70
24	51	32	35	33	51	64	940	1460	1800	628	489	68
25	53	40	38	34	50	68	835	1190	1830	695	243	66
26	57	48	39	39	55	59	945	1210	1710	646	167	60
27	57	46	39	40	60	66	935	1300	1660	615	148	59
28	48	42	39	42	66	59	955	1550	1610	597	128	59
29	48	40	39	40	70	59	1010	1730	1470	574	111	59
30	50	39	42	40	---	59	1060	1760	1420	525	86	57
31	49	---	45	38	---	64	---	1800	---	584	82	---
TOTAL	1385	1188	1265	1206	1592	2043	11557	33000	55270	22607	13019	3037
MEAN	44.7	39.6	40.8	38.9	54.9	65.9	385	1065	1842	729	420	101
MAX	57	48	45	48	70	77	1060	1800	2470	1460	579	336
MIN	40	32	35	32	40	59	53	579	1420	316	82	57
AC-FT	2750	2360	2510	2390	3160	4050	22920	65460	109600	44840	25820	6020

CAL YR 1979 TOTAL 153893 MEAN 422 MAX 2340 MIN 32 AC-FT 305200
WTR YR 1980 TOTAL 147169 MEAN 402 MAX 2470 MIN 32 AC-FT 291900

08247500 SAN ANTONIO RIVER AT ORTIZ, CO

LOCATION.--Lat 36°59'35", long 106°02'17", in NE¼SE¼ sec.24, T.32 N., R.8 E., Rio Arriba County, New Mexico, Hydrologic Unit 13010005, on left bank 800 ft (240 m) south of Colorado-New Mexico State line, 0.4 mi (0.6 km) southeast of Ortiz, and 0.4 mi (0.6 km) upstream from Los Pinos River.

DRAINAGE AREA.--110 mi^2 (280 km^2), approximately.

PERIOD OF RECORD.--April 1919 to October 1920, October 1924 to current year (no winter records prior to 1941). Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1732: 1951. WSP 1923: 1927 (monthly runoff).

GAGE.--Water-stage recorder. Altitude of gage is 7,970 ft (2,429 m), from topographic map. Prior to Apr. 7, 1926, nonrecording gage at various locations near present site at different datums. Apr. 7, 1926, to June 24, 1954, water-stage recorder at site 200 ft (60 m) downstream at present datum.

REMARKS.--Records good except those for winter period, which are fair. A few small diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--40 years (1940-80), 25.0 ft^3/s (0.708 m^3/s), 18,110 acre-ft/yr (22.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft^3/s (49.6 m^3/s) Apr. 15, 1937, gage height, 5.38 ft (1.640 m), from rating curve extended above 1,100 ft^3/s (31 m^3/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 330 ft^3/s (9.3 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
May 8	0230	*816	23.1	4.59	1.399	May 22	0900	712	20.2	4.14	1.262

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.8	.50	2.0	4.5	5.5	7.5	258	135	4.0	.00	.00
2	.00	2.2	.50	2.5	4.5	5.5	5.2	174	116	3.6	.00	.00
3	.00	2.0	.50	2.0	5.0	6.0	5.5	222	106	3.6	.00	.00
4	.00	2.4	1.0	2.5	5.0	5.5	5.5	359	98	2.6	.00	.00
5	.00	2.6	1.0	2.5	5.0	5.5	9.3	398	92	2.0	.00	.00
6	.00	2.4	1.5	3.0	5.0	6.5	20	500	83	1.8	.00	.00
7	.00	2.6	2.0	3.0	5.0	6.0	15	500	72	1.4	.00	.00
8	.00	2.8	2.5	3.0	4.5	5.5	9.7	612	67	1.8	.00	.00
9	.00	3.2	2.5	3.0	4.0	5.5	10	532	66	2.4	.00	.00
10	.00	2.4	2.5	3.5	4.5	6.0	15	434	63	2.0	.00	.00
11	.00	2.0	3.0	3.0	4.5	6.0	18	422	57	2.4	.00	.00
12	.00	1.6	3.0	3.0	4.5	5.5	13	362	48	1.4	.00	.00
13	.00	1.0	2.5	3.5	5.0	5.0	9.3	245	40	.90	.00	.00
14	.00	1.0	2.0	4.5	5.0	5.5	10	275	35	.90	.00	.00
15	.00	1.3	2.0	4.5	5.0	6.0	15	278	28	.70	.00	.00
16	.00	1.3	2.5	4.5	5.0	6.5	26	225	24	.60	.00	.00
17	.00	1.4	2.0	4.0	5.0	5.5	41	220	22	.50	.00	.00
18	.00	2.4	1.5	4.5	5.5	6.0	69	282	19	.15	.00	.00
19	.00	2.6	1.5	4.5	5.5	6.5	128	353	17	.02	.00	.00
20	.00	2.8	1.5	4.0	5.5	6.5	179	419	15	.00	.00	.00
21	.00	2.0	2.0	3.5	5.0	7.0	218	449	14	.00	.00	.00
22	.00	1.0	2.5	3.0	4.5	7.0	262	483	12	.00	.00	.00
23	1.5	.50	2.5	3.0	4.5	6.8	280	452	11	.00	.00	.00
24	2.8	.50	2.0	3.0	4.0	5.5	225	386	9.7	.00	.00	.00
25	3.0	1.5	2.0	3.5	4.5	6.0	121	300	8.6	.00	.00	.00
26	2.8	2.5	2.5	4.0	4.5	5.0	93	232	7.8	.00	.00	.00
27	2.4	1.5	3.0	4.5	5.0	5.5	100	210	7.2	.00	.00	.00
28	2.0	.50	2.0	5.0	5.5	5.0	154	185	6.1	.00	.00	.00
29	1.6	.50	2.0	5.0	6.0	5.5	262	180	5.2	.00	.00	.00
30	2.2	.50	2.0	5.0	---	5.5	295	162	4.2	.00	.00	.00
31	2.6	---	2.0	4.5	---	6.0	---	148	---	.00	.00	---
TOTAL	20.90	53.80	60.50	111.0	141.0	181.3	2621.0	10257	1288.8	32.77	.00	.00
MEAN	.67	1.79	1.95	3.58	4.86	5.85	87.4	331	43.0	1.06	.000	.000
MAX	3.0	3.2	3.0	5.0	6.0	7.0	295	612	135	4.0	.00	.00
MIN	.00	.50	.50	2.0	4.0	5.0	5.2	148	4.2	.00	.00	.00
AC-FT	41	107	120	220	280	360	5200	20340	2560	65	.00	.00

CAL YR 1979 TOTAL 16931.09 MEAN 46.4 MAX 525 MIN .00 AC-FT 33580
WTR YR 1980 TOTAL 14768.07 MEAN 40.3 MAX 612 MIN .00 AC-FT 29290

NOTE.--NO GAGE-HEIGHT RECORD NOV. 23 TO MAR. 18.

08248000 LOS PINOS RIVER NEAR ORTIZ, CO

LOCATION.--Lat 36°58'56", long 106°04'23", on line between secs.26 and 27, T.32 N., R.8 E., Rio Arriba County, New Mexico, Hydrologic Unit 13010005, on left bank 0.9 mi (1.4 km) south of Colorado-New Mexico State line, 2.1 mi (3.4 km) southwest of Ortiz, and 2.9 mi (4.7 km) upstream from mouth.

DRAINAGE AREA.--167 mi^2 (433 km^2).

PERIOD OF RECORD.--January 1915 to December 1920, October 1924 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 8,040 ft (2,451 m), from topographic map. Prior to Apr. 15, 1955, at site 350 ft (110 m) upstream at datum 2.52 ft (0.768 m) higher.

REMARKS.--Records good except those for winter period, which are fair. Diversions above station for irrigation. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--61 years, 120 ft^3/s (3.398 m^3/s), 86,940 acre-ft/yr (107 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,160 ft^3/s (89.5 m^3/s) May 12, 1941, gage height, 5.77 ft (1.759 m), site and datum then in use, from rating curve extended above 1,600 ft^3/s (45 m^3/s); minimum observed, 4.0 ft^3/s (0.11 m^3/s) Dec. 17, 1945 (discharge measurement) but may have been less during periods of no gage-height record.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,660 ft^3/s (47.0 m^3/s) at 0030 May 24, gage height, 6.13 ft (1.868 m), only peak above base of 900 ft^3/s (25 m^3/s); minimum daily, 9.0 ft^3/s (0.25 m^3/s) Nov. 24, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	10	13	15	23	18	382	930	294	33	18
2	13	11	10	14	16	24	22	309	855	326	30	18
3	13	14	13	11	18	25	18	357	894	267	33	17
4	13	17	13	13	19	24	18	484	972	228	33	17
5	13	15	12	13	19	22	22	576	1030	198	29	16
6	12	13	13	14	18	24	25	666	1010	173	28	18
7	12	16	13	14	20	22	24	745	924	168	28	18
8	12	18	14	14	19	21	22	942	954	166	29	18
9	12	15	13	14	17	21	24	960	1110	145	28	21
10	13	13	13	15	18	22	29	835	1150	140	33	30
11	12	12	14	14	18	23	34	865	1070	124	31	33
12	12	11	14	14	19	21	33	800	1040	112	33	24
13	13	10	12	14	20	19	30	589	936	101	29	23
14	13	11	11	16	22	20	28	607	855	98	30	22
15	13	11	12	16	22	20	34	576	765	86	32	18
16	13	12	14	16	22	20	48	484	680	76	27	17
17	14	12	13	15	22	18	58	492	648	65	24	18
18	15	14	12	16	23	18	77	598	685	59	22	17
19	15	14	12	16	24	21	107	760	690	56	19	16
20	13	13	12	15	23	17	147	966	648	52	18	15
21	17	11	13	14	20	20	178	1130	598	50	18	14
22	19	11	13	12	19	22	220	1280	576	48	17	13
23	17	9.5	13	11	18	21	261	1340	524	49	18	13
24	18	9.0	11	12	17	17	303	1330	504	49	24	11
25	19	12	12	13	19	23	222	1140	496	66	25	11
26	18	14	13	15	20	19	200	972	456	53	23	13
27	17	12	14	16	22	22	192	930	428	44	21	15
28	16	10	12	17	24	16	215	948	385	38	20	15
29	15	9.5	11	17	26	18	312	978	343	36	19	15
30	17	9.0	12	16	---	18	382	954	312	34	18	14
31	15	---	12	14	---	20	---	960	---	35	18	---
TOTAL	447	371.0	386	444	579	641	3303	24955	22468	3436	790	528
MEAN	14.4	12.4	12.5	14.3	20.0	20.7	110	805	749	111	25.5	17.6
MAX	19	18	14	17	26	25	382	1340	1150	326	33	33
MIN	12	9.0	10	11	15	16	18	309	312	34	17	11
AC-FT	887	736	766	881	1150	1270	6550	49500	44570	6820	1570	1050

CAL YR 1979	TOTAL	63816.0	MEAN	175	MAX	1540	MIN	9.0	AC-FT	126600
WTR YR 1980	TOTAL	58348.0	MEAN	159	MAX	1340	MIN	9.0	AC-FT	115700

NOTE.--NO GAGE-HEIGHT RECORD DEC. 3 TO MAR. 11.

08248500 SAN ANTONIO RIVER AT MOUTH, NEAR MANASSA, CO

LOCATION.--Lat 37°10'37", long 105°52'39", in SE¼NE¼ sec.21, T.34 N., R.10 E., Conejos County, Hydrologic Unit 13010005, on right bank 0.3 mi (0.5 km) downstream from bridge on State Highway 142, 2.2 mi (3.5 km) upstream from mouth, and 3.3 mi (5.3 km) east of Manassa.

DRAINAGE AREA.--348 mi² (901 km²).

PERIOD OF RECORD.--April 1923 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1936(M). WSP 1732: 1957.

GAGE.--Water-stage recorder. Altitude of gage is 7,650 ft (2,332 m), from topographic map. Prior to Apr. 23, 1936, at former bridge site 200 ft (60 m) upstream at present datum.

REMARKS.--Records good except those for winter period which are poor. Natural flow of stream affected by diversions to Cove Lake Reservoir, capacity, 9,700 acre-ft (12.0 hm³) and diversions for irrigation above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--57 years, 80.5 ft³/s (2.280 m³/s), 58,320 acre-ft/yr (71.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,620 ft³/s (74.2 m³/s) May 14, 1941, gage height, 6.26 ft (1.908 m), from rating curve extended above 2,200 ft³/s (62 m³/s); maximum gage height, 6.42 ft (1.957 m) May 6, 1952; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1854 occurred Oct. 5, 1911, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,240 ft³/s (35.1 m³/s) at 1700 May 24, gage height, 6.39 ft (1.948 m); only peak above base of 500 ft³/s (14 m³/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	6.5	2.5	7.0	13	9.0	515	892	225	.30	.00
2	.00	.00	7.0	3.0	7.5	14	11	416	853	236	.09	.00
3	.00	.00	8.5	3.0	8.0	17	14	384	800	208	.05	.00
4	.00	.00	8.0	3.0	8.5	15	9.0	545	811	171	.50	.00
5	.00	.00	7.5	3.0	9.0	15	9.0	705	880	144	.06	.00
6	.00	.00	7.0	3.0	9.0	19	17	856	944	122	.00	.00
7	.00	.00	7.0	3.5	10	16	26	972	932	122	.00	.00
8	.00	.00	7.5	3.5	9.0	13	20	1040	860	115	.00	.00
9	.00	.00	7.5	4.0	8.0	13	18	1090	896	113	.00	.00
10	.00	.00	7.5	4.5	8.0	15	23	1060	967	107	.00	.00
11	.00	.00	8.0	3.5	9.0	15	34	1030	954	114	.00	.00
12	.00	.00	7.5	3.5	9.0	15	32	1020	868	102	.00	.00
13	.00	.00	6.5	4.0	10	15	20	846	808	79	.00	.00
14	.00	.00	5.5	5.0	13	14	18	752	724	74	.00	.00
15	.00	.00	6.0	4.5	15	17	16	758	645	73	.00	.00
16	.00	.00	6.5	4.0	14	17	42	705	578	61	.00	.00
17	.00	.00	5.5	3.5	12	9.8	60	558	535	46	.00	.00
18	.00	.00	4.5	4.5	12	8.3	64	603	530	34	.00	.00
19	.00	2.0	4.5	4.5	14	6.4	118	776	545	22	.00	.00
20	.00	5.3	4.5	4.0	14	7.0	184	962	562	14	.00	.00
21	.00	3.3	5.0	3.5	13	6.4	249	1080	500	11	.00	.00
22	.00	2.0	5.5	3.0	12	8.3	287	1150	438	8.3	.00	.00
23	.00	1.7	3.5	4.0	12	14	354	1190	394	5.9	.00	.00
24	.00	1.7	2.5	5.0	10	14	422	1200	366	4.7	.00	.00
25	.00	2.8	3.0	6.0	10	12	306	1140	348	3.5	.00	.00
26	.00	9.0	3.5	7.5	12	16	234	1040	328	2.4	.00	.00
27	.00	11	3.5	8.0	13	13	202	954	315	2.0	.00	.00
28	.00	7.0	2.5	8.5	15	16	230	916	294	1.4	.00	.00
29	.00	6.0	1.5	8.0	18	11	348	912	268	1.2	.00	.00
30	.00	6.0	2.0	8.0	---	11	472	912	246	.85	.00	.00
31	.00	---	2.0	6.5	---	11	---	908	---	.63	.00	---
TOTAL	.00	57.80	167.5	142.0	321.0	407.2	3848.0	26995	19081	2223.88	1.00	.00
MEAN	.000	1.93	5.40	4.58	11.1	13.1	128	871	636	71.7	.032	.000
MAX	.00	11	8.5	8.5	18	19	472	1200	967	236	.50	.00
MIN	.00	.00	1.5	2.5	7.0	6.4	9.0	384	246	.63	.00	.00
AC-FT	.00	115	332	282	637	808	7630	53540	37850	4410	2.0	.00

CAL YR 1979 TOTAL 66235.75 MEAN 181 MAX 1510 MIN .00 AC-FT 131400
WTR YR 1980 TOTAL 53244.38 MEAN 145 MAX 1200 MIN .00 AC-FT 105600

NOTE.--NO GAGE-HEIGHT RECORD NOV. 27 TO MAR. 7.

08249000 CONEJOS RIVER NEAR LASAUSES, CO

LOCATION.--Lat 37°18'01", long 105°44'47", in SW¼SW¼ sec.2, and SE¼NE¼ sec.10 (two channels), T.35 N., R.11 E., Conejos County, Hydrologic Unit 13010005, on left bank of main channel 125 ft (38 m) downstream from bridge on State Highway 158 and on left bank of secondary channel 230 ft (70 m) upstream from bridge on State Highway 158, 1.0 mi (1.6 km) upstream from mouth, 2.1 mi (3.4 km) north of Lasauses, and 13 mi (21 km) southeast of Alamosa.

DRAINAGE AREA.--887 mi² (2,297 km²).

PERIOD OF RECORD.--March 1921 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to Oct. 1, 1966, published as "near La Sauses."

REVISED RECORDS.--WSP 1312: 1934(M).

GAGE.--Two water-stage recorders. Datum of gage on main (north) channel is 7,495.02 ft (2,284.482 m), and on secondary (south) channel is 7,496.89 ft (2,285.052 m), National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Main channel: See WSP 1732 for history of changes prior to Oct. 1, 1937. South channel: Prior to Oct. 23, 1934, at bridge 230 ft (70 m) downstream at datum 0.56 ft (0.171 m) lower; Oct. 23, 1934, to May 3, 1936, at site 250 ft (76 m) downstream, and May 4, 1936, to Oct. 13, 1965, at site 280 ft (85 m) downstream, at datum 1.00 ft (0.305 m) lower.

REMARKS.--Records good except those for winter period, which are fair. Diversions for irrigation of about 75,000 acres (300 km²) above station. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--59 years, 182 ft³/s (5.154 m³/s), 131,900 acre-ft/yr (163 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,890 ft³/s (110 m³/s) May 15, 1941; no flow at times some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 5, 1911, is the greatest since at least 1854, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,590 ft³/s (45.0 m³/s) June 7; minimum daily, 0.10 ft³/s (0.003 m³/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	7.5	32	33	48	86	82	1270	1370	931	200	14
2	.25	16	34	36	48	88	82	1190	1370	959	212	12
3	.25	16	39	32	50	90	85	954	1250	965	178	11
4	.25	17	41	35	52	96	81	907	1180	870	150	9.6
5	.25	17	41	35	54	94	78	1080	1370	754	122	9.0
6	.25	19	40	38	54	88	82	1190	1520	557	140	9.0
7	.25	27	41	38	60	94	92	1330	1550	478	230	8.8
8	.25	30	49	40	52	87	95	1410	1350	520	262	8.2
9	.20	32	47	42	52	80	89	1510	1300	547	279	8.3
10	.25	33	50	44	48	79	84	1510	1320	531	275	9.8
11	.30	31	51	44	48	81	75	1410	1380	504	289	28
12	.30	29	55	42	49	85	91	1400	1160	416	243	126
13	.30	27	48	44	51	84	87	1240	1050	404	231	67
14	.30	27	37	52	60	76	75	892	901	367	243	35
15	.30	27	38	58	67	80	68	923	795	343	171	24
16	.30	27	39	60	70	86	75	928	722	298	88	16
17	.35	28	36	58	73	88	112	755	874	279	65	14
18	.40	30	34	64	77	78	130	692	933	226	55	11
19	.50	38	32	64	96	76	202	793	1070	172	44	9.8
20	.60	40	34	60	99	81	366	978	1220	139	35	8.0
21	1.2	34	36	58	84	81	480	1220	1270	151	34	7.7
22	1.1	27	41	46	88	84	629	1420	1190	174	38	7.4
23	1.1	27	38	44	80	94	905	1500	1100	145	36	7.1
24	1.1	27	32	46	75	96	1080	1500	1040	136	39	7.1
25	1.0	30	34	50	75	92	1010	1450	1000	210	51	7.1
26	.70	34	38	52	75	94	826	1200	1010	267	58	7.1
27	.10	36	43	52	80	94	860	956	1070	237	55	7.4
28	.40	34	42	58	86	98	879	895	1040	208	43	7.4
29	.80	31	34	56	88	89	978	956	988	218	34	7.4
30	1.4	29	33	58	---	87	1160	1100	932	188	23	7.4
31	1.6	---	33	49	---	84	---	1320	---	177	18	---
TOTAL	16.60	827.5	1222	1488	1939	2690	10938	35879	34325	12371	3941	511.6
MEAN	.54	27.6	39.4	48.0	66.9	86.8	365	1157	1144	399	127	17.1
MAX	1.6	40	55	64	99	98	1160	1510	1550	965	289	126
MIN	.10	7.5	32	32	48	76	68	692	722	136	18	7.1
AC-FT	33	1640	2420	2950	3850	5340	21700	71170	68080	24540	7820	1010

CAL YR 1979 TOTAL 116624.65 MEAN 320 MAX 1940 MIN .10 AC-FT 231300
WTR YR 1980 TOTAL 106148.70 MEAN 290 MAX 1550 MIN .10 AC-FT 210500

08250000 CULEBRA CREEK AT SAN LUIS, CO

LOCATION.--Lat 37°11'02", long 105°25'31", Costilla County, Hydrologic Unit 13010002, in Beaubien Grant, on left bank at bridge 1.0 mi (1.6 km) south of San Luis and 1.0 mi (1.6 km) upstream from Rito Seco.

DRAINAGE AREA.--220 mi² (570 km²).

PERIOD OF RECORD.--April 1927 to current year. Monthly discharge only for some periods, published in WSP 1312. Records for January 1910 to December 1911, published as Culebra River at San Luis in WSP 288 and 308, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1312: 1940. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 8,000 ft (2,438 m), from topographic map. Prior to May 23, 1931, water-stage recorder at present site at different datum.

REMARKS.--Records good. Diversions above station for irrigation. Flow regulated by Sanchez Reservoir, capacity, 103,000 acre-ft (130 hm³), on Ventero Creek. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--53 years, 46.1 ft³/s (1.306 m³/s), 33,400 acre-ft/yr (41.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 654 ft³/s (18.5 m³/s) July 1, 1947, gage height, 5.09 ft (1.551 m), from rating curve extended above 300 ft³/s (8.5 m³/s); minimum daily, 4.6 ft³/s (0.13 m³/s) Oct. 31, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 319 ft³/s (9.03 m³/s) at 0830 June 27, gage height, 3.08 ft (0.939 m); minimum daily, 16 ft³/s (0.45 m³/s) Jan. 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	21	20	18	18	20	22	38	104	127	158	37
2	38	19	19	18	18	21	22	34	104	140	166	36
3	34	19	21	17	19	21	23	27	119	140	184	30
4	34	24	21	17	21	21	22	25	146	156	182	23
5	32	21	22	17	22	21	22	23	154	158	181	23
6	31	22	21	18	21	21	21	24	158	154	181	24
7	31	27	21	18	22	21	23	29	156	166	180	24
8	32	28	22	18	22	21	21	34	150	147	184	24
9	32	25	23	18	22	21	22	25	59	92	192	27
10	32	24	22	18	22	21	21	21	158	55	165	44
11	32	23	23	18	22	21	22	20	170	52	127	57
12	33	22	24	18	22	21	21	19	166	50	81	42
13	34	22	22	20	22	20	24	21	172	58	88	36
14	32	22	21	22	24	21	25	23	219	94	120	34
15	34	22	21	21	25	21	25	30	217	152	119	33
16	34	22	21	20	25	20	24	38	198	189	116	31
17	32	22	21	20	25	21	21	28	141	178	115	30
18	32	24	20	20	27	21	28	24	127	106	104	28
19	33	24	18	20	30	21	32	24	208	103	90	26
20	32	24	18	20	24	20	33	22	189	166	91	25
21	42	23	19	20	21	20	30	21	182	170	88	24
22	40	22	19	18	21	20	21	21	182	191	87	24
23	38	21	19	16	21	22	19	21	177	198	87	19
24	39	21	19	17	21	25	26	22	174	192	87	19
25	36	21	19	16	20	27	25	32	175	42	95	19
26	35	21	19	17	20	25	24	40	244	144	91	21
27	35	22	19	17	21	28	22	34	261	189	87	20
28	35	20	19	17	22	27	20	26	165	165	85	20
29	35	20	19	18	21	26	20	25	119	164	75	21
30	31	20	18	18	---	25	22	30	120	162	58	20
31	22	---	17	18	---	24	---	62	---	160	50	---
TOTAL	1050	668	627	568	641	685	703	863	4914	4260	3714	841
MEAN	33.9	22.3	20.2	18.3	22.1	22.1	23.4	27.8	164	137	120	28.0
MAX	42	28	24	22	30	28	33	62	261	198	192	57
MIN	22	19	17	16	18	20	19	19	59	42	50	19
AC-FT	2080	1320	1240	1130	1270	1360	1390	1710	9750	8450	7370	1670

CAL YR 1979 TOTAL 19514.0 MEAN 53.5 MAX 356 MIN 9.0 AC-FT 38710
WTR YR 1980 TOTAL 19534.0 MEAN 53.4 MAX 261 MIN 16 AC-FT 38750

08251500 RIO GRANDE NEAR LOBATOS, CO

LOCATION.--Lat 37°04'42", long 105°45'22", in sec.22, T.33 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank at highway bridge, 6 mi (10 km) north of Colorado-New Mexico State line, 7 mi (11 km) downstream from Culebra Creek, 10 mi (16 km) east of Lobatos, and 14 mi (23 km) east of Antonito.

DRAINAGE AREA.--7,700 mi² (19,900 km²), approximately, includes 2,940 mi² (7,610 km²) in closed basin in northern part of San Luis Valley, Colo.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "at Cenicero" 1899-1901, and as "near Cenicero" 1902-4.

REVISED RECORDS.--WSP 1312: 1919 (monthly runoff). WSP 210: Drainage area. WDR CO-78-1: 1976.

GAGE.--Water-stage recorder. Datum of gage is 7,427.63 ft (2,263.942 m), National Geodetic Vertical Datum of 1929. Prior to 1910, nonrecording gages at same site and datum.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversion for irrigation, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,200 ft³/s (374 m³/s) June 8, 1905, gage height, 9.1 ft (2.77 m), from rating curve extended above 8,000 ft³/s (230 m³/s); no flow at times in 1950-51, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1828, that of June 8, 1905.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,230 ft³/s (91.5 m³/s) at 1200 June 13, gage height, 4.50 ft (1.372 m); minimum daily, 17 ft³/s (0.48 m³/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	71	105	200	290	405	370	1700	2980	1260	250	34
2	40	78	110	205	290	400	375	1750	2900	1230	258	29
3	40	105	120	215	290	395	365	1590	2740	1310	250	26
4	40	130	120	225	295	410	365	1440	2700	1320	226	22
5	38	130	130	235	300	405	360	1590	2740	1280	195	19
6	38	120	140	245	300	400	365	1720	2900	1150	178	18
7	38	118	155	255	300	405	375	1820	3030	970	230	18
8	38	122	165	255	230	390	385	2050	3040	1010	325	18
9	38	128	165	265	285	380	395	2250	3020	1020	335	17
10	38	133	165	265	300	365	385	2450	2970	970	340	19
11	38	128	170	265	295	370	370	2390	3080	880	340	23
12	37	122	175	270	290	365	390	2330	3120	713	320	54
13	37	115	165	285	300	360	420	2310	3140	629	290	154
14	37	115	165	300	320	360	405	1930	2680	556	270	148
15	37	110	165	305	330	355	385	1870	2290	514	254	82
16	37	115	175	310	340	365	385	2040	2090	450	167	50
17	37	120	175	325	355	365	420	1910	1950	415	108	33
18	38	130	170	330	380	370	490	1660	1850	380	88	27
19	38	120	165	310	400	350	544	1680	1820	310	76	24
20	41	90	175	330	425	345	752	1860	1870	278	60	23
21	48	95	180	315	410	350	979	2100	1950	274	48	22
22	53	90	185	285	400	355	1170	2330	1820	282	43	20
23	51	85	190	250	390	360	1350	2670	1670	286	50	21
24	60	85	175	265	380	380	1430	2920	1570	254	55	21
25	92	95	180	275	365	395	1570	3060	1520	250	60	21
26	82	105	185	290	365	380	1330	3000	1500	330	69	22
27	82	90	190	290	375	385	1240	2750	1520	335	170	22
28	80	90	190	295	400	385	1200	2540	1530	294	122	23
29	78	90	185	300	415	390	1260	2590	1470	282	90	24
30	73	105	200	305	---	375	1450	2670	1350	278	65	23
31	73	---	190	305	---	375	---	2920	---	238	44	---
TOTAL	1537	3230	5125	8570	9815	11690	21280	67890	68810	19748	5376	1057
MEAN	49.6	108	165	276	338	377	709	2190	2294	637	173	35.2
MAX	92	133	200	330	425	410	1570	3060	3140	1320	340	154
MIN	37	71	105	200	230	345	360	1440	1350	238	43	17
AC-FT	3050	6410	10170	17000	19470	23190	42210	134700	136500	39170	10660	2100

CAL YR 1979 TOTAL 315493 MEAN 864 MAX 4690 MIN 37 AC-FT 625800
WTR YR 1980 TOTAL 224128 MEAN 612 MAX 3140 MIN 17 AC-FT 444600

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to current year.
WATER TEMPERATURES: October 1975 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1975.

REMARKS.--Records good. Daily maximum and minimum specific-conductance data available in district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,040 micromhos Sept. 17, 18, 1977; minimum, 89 micromhos May 9, 1979.
WATER TEMPERATURE.--Maximum, 30.0°C July 17, 1977; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 573 micromhos Oct. 25; minimum, 132 micromhos Aug. 10.
WATER TEMPERATURES: Maximum, 27.5°C July 16, 20, 21; minimum, 0.0°C on many days during November to March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	NITROGEN, TOTAL (MG/L AS N)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)
NOV 01...	1315	69	419	8.4	7.5	1.5	12.2	.71	K16	K10	130
29...	1400	98	352	7.9	.5	2.2	16.4	1.2	74	39	100
FEB 08...	1100	100	207	8.0	.0	2.9	12.0	.95	K18	K20	77
MAR 13...	1415	360	220	7.4	7.5	9.2	10.6	.91	<1	K5	81
APR 17...	1245	430	210	7.9	14.0	16	9.7	.72	K2	K28	75
MAY 28...	1300	2590	160	--	14.0	27	8.2	.68	K36	140	58
JUN 26...	1400	1600	200	7.9	20.0	12	8.5	.74	K32	K36	63
JUL 24...	1210	260	286	8.4	23.0	8.4	8.3	1.0	<2	K120	83
AUG 06...	1300	178	175	8.1	20.0	4.5	8.0	.76	K4	K68	58
SEP 09...	1145	18	445	8.3	15.0	15	11.4	.54	80	120	140

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV 01...	13	40	8.1	35	1.3	5.5		72	8.6	.6
29...	8	32	5.8	23	1.0	4.5		46	6.0	.5
FEB 08...	8	24	4.1	11	.5	2.9		29	3.9	.2
MAR 13...	7	25	4.6	14	.7	2.7		32	4.5	.3
APR 17...	12	23	4.3	14	.7	2.9		32	3.3	.2
MAY 28...	15	17	3.7	9.3	.5	2.4		24	3.4	.2
JUN 26...	21	19	3.8	13	.7	2.7		38	2.8	.2
JUL 24...	16	25	4.9	20	1.0	3.6		51	5.4	.5
AUG 06...	0	18	3.2	12	.7	2.9		23	3.1	.3
SEP 09...	27	41	8.4	41	1.5	5.7		99	10	.5

K BASED ON NON-IDEAL COLONY COUNT.

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)
NOV 01...	28	273	271	.37	50.9	.11	.14	.050	.030	.79
29...	34	224	212	.30	59.3	.51	.48	.120	.090	1.1
FEB 08...	29	158	148	.21	42.7	.46	.47	.110	.130	.41
MAR 13...	26	169	155	.23	164	.62	.28	.120	.120	1.1
APR 17...	28	157	146	.21	182	.16	.18	.100	.040	.56
MAY 28...	19	122	105	.17	853	.05	.06	.030	.030	1.1
JUN 26...	22	144	127	.20	622	.13	.02	.000	.010	.66
JUL 24...	22	190	173	.26	133	.00	.03	.010	.010	.96
AUG 06...	21	122	119	.17	58.6	.00	.00	.020	.000	1.5
SEP 09...	20	353	292	.48	17.2	.00	.00	.000	.000	.88

DATE	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)	PHYTOPLANKTON, TOTAL (CELLS PER ML)
NOV 01...	.54	.84	.57	.95	.090	.040	--	17	.5	--
29...	.67	1.20	.76	1.7	.100	.120	7.9	--	--	3300
FEB 08...	.35	.52	.48	.98	.130	.060	4.2	--	--	--
MAR 13...	.51	1.20	.63	1.8	.140	.100	--	2.4	1.6	--
APR 17...	.50	.66	.54	.82	.210	.090	4.5	--	--	--
MAY 28...	.59	1.10	.62	1.2	.190	.060	7.8	--	--	--
JUN 26...	.71	.66	.72	.79	.040	.030	--	5.9	.6	1900
JUL 24...	.99	.97	1.0	.97	.160	.120	5.9	--	--	67000
AUG 06...	.76	1.50	.76	1.5	.120	.060	--	4.3	--	16000
SEP 09...	.54	.88	.54	.88	.120	.040	7.4	--	--	18000

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)
NOV 01...	1315	3	4	100	40	0	<1	0	0	1
MAR 13...	1415	2	3	0	30	1	<1	0	0	0
APR 17...	1245	--	--	--	--	--	--	--	--	--
MAY 28...	1300	--	--	--	--	--	--	--	--	--
JUN 26...	1400	2	3	0	30	0	<1	0	0	0
AUG 06...	1300	2	3	100	30	0	<1	0	0	0
SEP 09...	1145	--	--	--	--	--	--	--	--	--

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
NOV										
01...	<3	0	0	170	40	2	0	50	8	.1
MAR										
13...	<3	6	2	780	80	4	0	90	7	.0
APR										
17...	--	--	--	--	--	--	--	--	--	--
MAY										
28...	--	--	--	--	--	--	--	--	--	--
JUN										
26...	<3	5	3	1100	30	7	8	100	20	.0
AUG										
06...	<3	4	1	500	70	2	1	60	6	.1
SEP										
09...	--	--	--	--	--	--	--	--	--	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV										
01...	.1	--	3	0	0	0	0	0	20	9
MAR										
13...	.0	--	31	0	0	0	0	0	100	10
APR										
17...	--	--	--	--	--	--	0	--	--	--
MAY										
28...	--	--	--	--	--	--	0	--	--	--
JUN										
26...	.1	--	0	5	0	0	0	0	30	5
AUG										
06...	.0	<10	3	0	0	0	0	0	20	7
SEP										
09...	--	--	--	--	--	--	0	--	--	--

DATE	TIME	CYANIDE TOTAL (MG/L AS CN)	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	ALDRIN, TOTAL (UG/L)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	CHLOR-DANE, TOTAL (UG/L)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
NOV												
01...	1315	.00	--	ND	ND	ND	ND	ND	ND	ND	ND	ND
07...	1315	--	ND	--	--	--	--	--	--	--	--	--
FEB												
08...	1130	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAR												
13...	1415	.00	--	--	--	--	--	--	--	--	--	--
MAY												
28...	1300	--	ND	--	ND	--	ND	--	ND	--	ND	--
JUN												
26...	1400	.00	--	--	--	--	--	--	--	--	--	--
AUG												
06...	1300	.00	ND	--	ND	--	ND	--	ND	--	ND	--

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	DDT, TOTAL (UG/L)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL (UG/L)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN TOTAL (UG/L)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL (UG/L)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL (UG/L)
NOV											
01...	ND	ND	--	ND	ND	ND	ND	ND	--	ND	ND
07...	--	--	ND	--	--	--	--	--	ND	--	--
FEB											
08...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
MAR											
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
28...	ND	--	ND	--	ND	--	ND	--	ND	--	ND
JUN											
26...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	ND	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL (UG/L)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL (UG/L)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOTAL (UG/L)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOTAL (UG/L)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)
NOV											
01...	ND	ND	ND	ND	ND	--	ND	ND	ND	--	ND
07...	--	--	--	--	--	ND	--	--	--	ND	--
FEB											
08...	--	ND	--	ND	--	ND	--	ND	--	ND	--
MAR											
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
28...	--	ND	--	ND	--	ND	--	ND	--	ND	--
JUN											
26...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	--	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	METHYL TRITHION, TOTAL (UG/L)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	PARATHION, TOTAL (UG/L)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV											
01...	--	ND	--	ND	ND	ND	--	ND	--	--	--
07...	ND	--	ND	--	--	--	ND	--	ND	ND	ND
FEB											
08...	ND	--	ND	--	ND	--	ND	--	--	--	--
MAR											
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
28...	ND	--	ND	--	ND	--	ND	--	--	--	--
JUN											
26...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	ND	--	ND	--	ND	--	ND	--	--	--	--

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
NOV					JUN				
01...	1415	69	12	2.2	26...	1630	1600	48	207
29...	1330	98	5	1.3	JUL				
FEB					24...	1155	260	20	14
08...	1100	100	54	15	AUG				
MAR					06...	1050	178	12	5.8
13...	1600	360	37	36	SEP				
APR					09...	1130	18	26	1.3
17...	1330	430	84	98					
MAY									
28...	1415	2590	325	2270					

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	500	409	259	209	183	212	256	198	188	192	185	---
2	500	374	255	213	187	199	249	210	185	198	163	---
3	501	371	260	209	187	199	267	227	183	209	151	---
4	502	318	253	205	189	205	279	236	180	204	156	---
5	507	267	249	199	194	199	275	229	169	202	171	---
6	513	253	246	196	198	207	274	220	166	204	180	---
7	514	267	232	194	204	210	263	215	159	222	205	---
8	518	285	212	191	200	203	256	216	157	235	168	---
9	529	293	210	187	195	202	250	217	155	236	147	401
10	535	290	208	183	188	206	244	216	154	230	137	410
11	539	282	201	181	187	198	219	216	155	230	140	415
12	532	272	196	181	189	200	201	220	167	243	143	427
13	523	268	195	181	189	208	200	223	170	257	150	285
14	528	270	199	181	186	210	205	239	182	256	154	249
15	534	281	197	180	181	222	211	259	183	258	142	207
16	531	292	197	---	178	218	216	281	187	270	153	220
17	528	291	201	---	175	206	207	290	195	279	176	248
18	531	289	203	---	183	209	189	290	201	274	214	289
19	542	281	204	---	201	222	176	271	202	280	---	334
20	550	270	204	---	191	215	191	263	199	308	---	368
21	525	279	204	---	187	220	258	254	192	318	---	401
22	505	277	203	183	194	229	229	239	199	290	---	438
23	---	281	201	188	197	220	234	226	203	275	---	468
24	---	328	203	192	198	221	195	215	204	285	---	495
25	548	339	206	196	205	223	192	210	206	280	---	517
26	470	332	205	196	219	220	206	208	202	231	---	532
27	427	310	207	194	225	232	207	209	197	196	---	536
28	428	309	206	192	228	240	210	217	188	198	---	530
29	429	289	203	187	220	247	205	215	187	191	---	525
30	430	273	203	182	---	261	200	202	189	183	---	537
31	437	---	200	181	---	260	---	192	---	185	---	---

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	10.5	7.5	1.0	.0	.0	.0	.0	.0	.0	7.0	.0
2	21.5	10.5	6.5	.5	.0	.0	.0	.0	.0	.0	6.0	.0
3	22.0	11.0	6.5	.0	.5	.0	.0	.0	.0	.0	5.5	1.0
4	20.0	9.5	5.5	.5	.0	.0	.0	.0	.0	.0	6.5	.5
5	20.5	9.5	7.0	.0	.0	.0	.0	.0	.0	.0	6.0	.0
6	20.5	9.0	7.5	.5	.0	.0	.0	.0	.0	.0	7.5	1.5
7	20.5	9.5	8.0	2.0	.0	.0	.0	.0	.0	.0	6.0	1.5
8	20.0	9.5	7.0	3.5	.0	.0	.0	.0	.0	.0	7.0	.5
9	17.0	10.0	8.5	2.5	.0	.0	.0	.0	.0	.0	8.5	1.5
10	18.5	7.0	9.0	2.0	.0	.0	.0	.0	.0	.0	9.0	1.5
11	19.0	8.5	6.5	1.0	.0	.0	.0	.0	.0	.0	5.0	3.0
12	19.0	9.0	6.0	.0	.0	.0	.0	.0	.0	.0	6.5	1.5
13	17.0	9.5	5.5	.0	.0	.0	.0	.0	.0	.0	7.5	.0
14	17.0	8.5	4.0	.0	.0	.0	.0	.0	.0	.0	9.5	2.0
15	18.5	7.5	3.0	.0	.0	.0	.0	.0	.0	.0	9.0	4.0
16	18.5	7.5	3.0	.0	.0	.0	.0	.0	.0	.0	7.0	2.0
17	15.0	7.0	2.5	.0	.0	.0	.0	.0	.0	.0	7.5	.0
18	15.0	8.5	3.5	.0	.0	.0	.0	.0	2.5	.0	8.5	1.5
19	14.0	7.0	2.0	.0	.0	.0	.0	.0	5.5	2.0	9.0	3.5
20	13.5	8.5	2.0	.0	.0	.0	.0	.0	3.5	.5	10.5	2.5
21	10.5	5.5	.5	.0	.0	.0	.0	.0	3.5	.0	10.5	4.0
22	13.0	2.5	1.0	.0	.0	.0	.0	.0	6.5	.0	8.0	4.5
23	14.0	3.5	1.0	.0	.0	.0	.0	.0	4.5	.0	7.0	2.5
24	15.0	5.0	1.0	.0	.0	.0	.0	.0	5.0	.0	8.0	1.0
25	15.5	6.5	1.0	.0	.0	.0	.0	.0	6.0	.0	6.0	2.5
26	14.0	6.5	1.5	.0	.0	.0	.0	.0	7.0	.0	8.0	2.0
27	14.0	5.5	.5	.0	.0	.0	.0	.0	8.0	1.0	8.5	4.5
28	13.0	5.5	.5	.0	.0	.0	.0	.0	8.0	2.0	7.5	---
29	9.0	4.5	.5	.0	.0	.0	.0	.0	6.0	2.0	9.0	3.5
30	4.0	1.0	.0	.0	.0	.0	.0	.0	---	---	9.5	3.5
31	7.5	1.0	---	---	.0	.0	.0	.0	---	---	6.5	2.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.5	.5	11.0	7.5	14.5	12.0	21.5	17.5	23.0	16.5	---	---
2	8.0	2.0	12.0	7.5	15.5	11.5	22.5	18.5	21.5	15.5	---	---
3	11.0	2.5	14.5	9.5	17.0	12.0	23.0	18.5	19.0	13.0	---	---
4	12.5	5.0	17.0	11.5	17.5	13.0	22.0	18.5	20.5	12.0	---	---
5	12.0	7.0	17.0	13.0	18.0	13.5	23.0	17.5	17.5	12.0	---	---
6	13.0	7.0	15.0	12.0	17.0	13.5	22.5	19.0	20.5	10.5	---	---
7	10.5	6.0	15.5	12.0	17.0	9.5	22.5	18.0	21.0	13.0	---	---
8	12.0	4.0	14.0	11.5	18.5	14.5	23.5	18.0	20.5	14.0	---	---
9	12.0	6.0	14.0	11.0	20.0	15.0	24.0	19.5	21.5	14.0	16.0	13.0
10	13.0	6.5	13.5	10.0	19.0	16.0	25.5	20.5	22.5	15.0	19.5	12.5
11	8.5	3.5	13.0	10.5	19.0	15.5	25.5	20.0	22.5	15.5	20.5	11.5
12	8.0	1.0	12.0	8.5	20.0	15.5	25.5	21.0	21.5	14.5	21.0	10.0
13	8.5	1.5	12.0	8.0	19.5	16.0	22.0	19.5	23.0	14.5	20.0	12.0
14	12.5	3.5	13.5	11.0	19.0	15.5	25.5	20.0	23.0	17.5	24.0	13.5
15	14.0	7.0	11.5	9.5	18.5	13.5	26.5	19.5	21.5	16.0	25.0	13.0
16	14.5	9.0	11.5	8.5	19.5	14.0	27.5	20.0	23.0	14.0	21.5	12.5
17	15.0	8.0	13.5	10.0	20.5	15.5	27.0	21.0	23.5	13.5	24.5	10.0
18	16.0	9.0	15.0	10.5	20.0	15.5	26.0	20.5	23.0	14.5	24.5	10.0
19	17.5	10.0	17.5	12.0	19.0	15.5	25.5	19.0	17.0	15.5	21.5	10.5
20	15.5	11.5	19.0	13.5	20.0	14.5	27.5	18.0	---	---	19.5	9.5
21	14.5	10.5	19.5	14.0	20.0	15.5	27.5	20.0	---	---	17.0	9.0
22	14.5	11.0	20.0	15.5	20.5	16.0	26.0	19.0	---	---	17.0	6.5
23	12.5	10.0	18.0	14.5	20.5	15.5	27.5	20.0	---	---	19.5	7.5
24	10.0	5.5	16.0	12.5	21.0	16.5	26.0	19.5	---	---	21.0	7.0
25	9.0	4.5	13.5	10.0	21.0	16.5	25.5	17.0	---	---	20.5	7.5
26	8.5	5.5	14.0	10.5	21.0	17.5	24.0	17.5	---	---	21.0	10.0
27	12.0	6.5	14.5	11.5	21.5	17.0	24.5	17.0	---	---	22.0	10.0
28	13.5	8.5	15.5	---	22.5	16.5	24.0	16.5	---	---	22.5	11.0
29	14.0	11.0	15.5	12.0	22.5	18.0	23.0	16.0	---	---	22.0	10.5
30	13.0	9.0	16.0	11.5	22.5	18.5	24.0	16.5	---	---	22.5	9.0
31	---	---	16.0	12.5	---	---	25.5	17.5	---	---	---	---

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued
PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE	NOV 29,79	JUN 26,80	JUL 24,80	AUG 6,80	SEP 9,80
TIME	1400	1400	1210	1300	1145
TOTAL CELLS/ML	3300	1900	47000	16000	18000
DIVERSITY: DIVISION	0.6	1.5	1.6	1.4	1.4
.CLASS	0.6	1.5	1.6	1.6	1.4
..ORDER	1.3	2.5	2.0	1.9	2.0
...FAMILY	2.3	3.0	2.5	2.2	2.6
....GENUS	2.5	3.3	2.8	2.5	3.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	1600	3	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	2100	5	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	800	2	--	-	160	1
....MICRACTINIUM	--	-	--	-	2400	5	630	4	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	--	-	26	1	400	1	130	1	900	5
....CHODATELLA	--	-	13	1	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	210	11	--	-	--	-	330	2
....OOCYSTIS	--	-	100	5	--	-	540	3	--	-
....SELENASTRUM	--	-	--	-	--	-	*	0	--	-
....TETRAEDRON	--	-	--	-	*	0	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	*	0	--	-
....WESTELLA	--	-	--	-	--	-	180	1	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	1100	2	360	2	4200#	24
....SCENEDESMUS	120	4	77	4	800	2	360	2	820	5
....TETRASTRUM	--	-	--	-	2100	5	180	1	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	59	2	65	3	270	1	130	1	160	1
....CHLOROGONIUM	--	-	--	-	*	0	--	-	--	-
...PHACOTACEAE										
....PTEROMONAS	--	-	--	-	--	-	*	0	160	1
...VOLVOCACEAE										
....EUDORINA	--	-	210	11	--	-	--	-	--	-
....PANDORINA	--	-	--	-	--	-	720	4	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	530#	16	440#	23	7200#	15	490	3	4300#	24
..PENNALES										
...CYMBELLACEAE										
....CYMBELLA	--	-	13	1	--	-	--	-	--	-
....EPITHEMIA	--	-	--	-	--	-	*	0	160	1
...FRAGILARIACEAE										
....FRAGILARIA	88	3	280	15	--	-	--	-	4200#	23
....SYNEDRA	260	8	--	-	--	-	--	-	160	1
...GOMPHONEMATACEAE										
....GOMPHONEMA	230	7	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	210	6	--	-	--	-	--	-	*	0
...NITZSCHIACEAE										
....NITZSCHIA	1600#	49	190	10	11000#	24	8200#	51	730	4
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	--	-	400	3	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
.CRYPTOPHYCEAE										
..CRYPTOMONADALES										
...CRYPTOCHRYSIDACEAE										
....CHROOMONAS	--	-	--	-	--	-	--	-	*	0
...CRYPTOMONADACEAE										
....CRYPTOMONAS	29	1	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....AGMENELLUM	--	-	--	-	16000#	34	3300#	21	980	5
....ANACYSTIS	--	-	130	7	530	1	--	-	410	2
....GOMPHOSPHAERIA	--	-	--	-	--	-	180	1	--	-
..HORMOGONALES										
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	130	7	--	[illegible]	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	59	2	--	-	--	-	--	-	--	-
....TRACHELOMONAS	88	3	13	1	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM: EQUAL TO OR GREATER THAN 15%
* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED: LESS THAN 1/2%

08252000 RIO GRANDE AT COLORADO-NEW MEXICO STATE LINE

LOCATION.--Lat 37°00'03", long 105°43'19", Costilla County, Hydrologic Unit 13010002, in Sangre de Cristo Grant, on left bank 0.6 mi (1.0 km) upstream from Colorado-New Mexico State line, 1.7 mi (2.7 km) upstream from Costilla Creek, and 5.5 mi (8.8 km) west of Jaroso.

PERIOD OF RECORD.--October 1953 to current year.

REVISED RECORDS.--WSP 1732: 1954(M). WDR CO 78-1: 1976.

GAGE.--Water-stage recorder. Altitude of gage is 7,390 ft (2,252 m), from topographic map.

REMARKS.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Several observations of water temperature were obtained and are published elsewhere in this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft³/s (142 m³/s) June 10, 1979, gage height, 7.77 ft (2.368 m); no flow at times in 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 8, 1905, reached a daily discharge of 13,100 ft³/s (371 m³/s) at station near Lobatos 5.8 mi (9.3 km) upstream, was probably the greatest since at least 1828, based on information from area residents.

EXTREMES FOR CURRENT YEAR.--Maximun discharge, 3,090 ft³/s (87.5 m³/s) at 1200 June 13, gage height, 6.32 ft (1.926 m); minimum daily, 16 ft³/s (0.45 m³/s) Sept. 7, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	72	105	195	295	418	391	1600	2880	1310	243	33
2	42	72	110	200	290	414	388	1690	2810	1260	252	27
3	42	99	120	210	290	398	385	1590	2680	1310	252	23
4	42	125	120	220	295	411	388	1390	2630	1330	228	22
5	42	138	130	230	300	414	378	1490	2660	1300	198	20
6	41	125	140	240	300	398	375	1610	2760	1190	172	18
7	41	118	150	250	300	394	388	1750	2910	962	201	16
8	41	122	160	255	235	401	408	1950	2940	962	298	18
9	40	135	165	260	280	391	414	2140	2900	986	324	21
10	38	138	165	260	295	378	404	2320	2860	938	327	21
11	38	149	170	260	295	375	398	2340	2940	870	324	22
12	36	132	175	265	295	375	404	2250	3040	730	320	24
13	36	128	170	280	300	365	435	2260	3030	631	292	136
14	36	120	165	295	315	365	428	1950	2620	571	271	163
15	38	115	165	305	325	359	408	1800	2230	531	258	97
16	38	120	170	310	335	372	401	1940	2060	480	186	55
17	38	120	175	320	350	381	431	1870	1910	435	118	36
18	40	135	175	325	380	385	498	1640	1830	404	90	28
19	40	138	170	320	405	372	547	1600	1780	333	76	20
20	40	125	175	320	440	368	720	1760	1800	286	66	17
21	42	103	180	320	431	368	910	1960	1890	286	55	16
22	55	82	185	295	425	372	1120	2200	1800	283	48	18
23	54	74	190	265	401	391	1310	2500	1630	295	50	21
24	54	70	180	265	394	401	1380	2750	1520	261	52	25
25	84	80	180	270	375	414	1530	2920	1480	249	54	23
26	82	95	185	285	375	404	1330	2930	1480	320	61	21
27	84	115	190	290	388	408	1240	2700	1470	340	125	22
28	80	100	190	290	411	411	1190	2460	1520	305	130	23
29	78	100	190	295	425	411	1240	2480	1480	280	88	23
30	78	100	195	300	---	398	1380	2570	1390	283	64	23
31	76	---	190	305	---	388	---	2780	---	246	44	---
TOTAL	1558	3345	5130	8500	9945	12100	21219	65190	66930	19967	5267	1032
MEAN	50.3	112	165	274	343	390	707	2103	2231	644	170	34.4
MAX	84	149	195	325	440	418	1530	2930	3040	1330	327	163
MIN	36	70	105	195	235	359	375	1390	1390	246	44	16
AC-FT	3090	6630	10180	16860	19730	24000	42090	129300	132800	39600	10450	2050

CAL YR 1979 TOTAL 313161 MEAN 858 MAX 4860 MIN 36 AC-FT 621200
WTR YR 1980 TOTAL 220183 MEAN 602 MAX 3040 MIN 16 AC-FT 436700

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO

There are 24 tunnels or ditches, all of which are equipped with water-stage recorders and Parshall flumes or sharp-crested weirs. Records furnished by Colorado Division of Water Resources. The locations of these diversions are given in the following list.

09010000 Grand River ditch diverts water from tributaries of Colorado River to La Poudre Pass Creek (tributary to Cache la Poudre River) in NW¼ sec.21, T.6 N., R.75 W., in Platte River basin. Two collection ditches beginning at headgates located in sec.28, T.5 N., R.76 W., and sec.29, T.6 N., R.75 W., intercept all tributaries upstream on each side of the Colorado River and converge at La Poudre Pass.
REVISIONS (WATER YEARS).--WSP 1313: 1912-27.

09012000 Eureka ditch diverts water from tributaries of Tonahutu Creek between headgate in sec.7, T.4 N., R.74 W., and Sprague Pass, in Colorado River basin, to Spruce Creek (tributary to Big Thompson River) in sec.16, T.4 N., R.74 W., in Platte River basin.
REVISIONS (WATER YEARS).--WSP 1313: 1949.

09013000 Alva B. Adams tunnel diverts water from Grand Lake and Shadow Mountain Lake in NW¼ sec.9, T.3 N., R.75 W., in Colorado River basin, to Lake Estes (Big Thompson River) in sec.30, T.5 N., R.72 W., in Platte River basin. For daily discharge, see elsewhere in this report.

09021500 Berthoud Pass ditch diverts water from tributaries of Fraser River between headgate in sec.33, T.2 S., R.75 W., and Berthoud Pass, in Colorado River basin, to Hoop Creek (tributary to West Fork Clear Creek) in sec.10, T.3 S., R.75 W., in Platte River basin.

09022500 Moffat water tunnel diverts water from tributaries of Williams Fork (via August P. Gumlick and Vasquez tunnels, beginning in 1959) between headgates (in secs.20 and 29, T.3 S., R.76 W.) and west portal of August P. Gumlick tunnel (in sec.28, T.3 S., R.76 W.) and from the main stem and tributaries of Fraser River between headgates (in sec.8, T.2 S., R.76 W., and sec.24, T.1 S., R.75 W.) and west portal of Moffat tunnel (in sec.11, T.2 S., R.75 W.), in Colorado River basin, to South Boulder Creek, in sec.2, T.2 S., R.74 W., in Platte River basin. (See sta. 09036000 for diversions by August P. Gumlick tunnel.)

09042000 Hoosier Pass tunnel diverts water from tributaries of Blue River in Colorado River basin to Montgomery Reservoir (Middle Fork South Platte River) in sec.14, T.8 S., R.78 W., in Platte River basin; this water is again diverted to South Catamount Creek (tributary to Catamount Creek) in SE¼ sec.14, T.13 S., R.69 W., in the Arkansas River basin. Collection conduits extending from the right bank of Crystal Creek (tributary to Spruce Creek) in sec.14, T.7 S., R.78 W., right bank of Spruce Creek in sec.23, T.7 S., R.78 W., right bank of McCullough Gulch in sec.26, T.7 S., R.78 W., right bank of Monte Cristo Creek in SW¼NE¼ sec.2, T.8 S., R.78 W., left bank of Bemrose Creek in SW¼SW¼ sec.6, T.8 S., R.77 W., and intercepting intermediate tributaries, transport diversions to north portal of the tunnel.

09046000 Boreas Pass ditch diverts water from tributaries of Blue River between headgate in sec.26, T.7 S., R.77 W., and Boreas Pass, in Colorado River basin, to Tarryall Creek in sec.26, T.7 S., R.77 W., in Platte River basin.
REVISIONS (WATER YEARS).--WSP 1733: 1958.

09047300 Vidler tunnel diverts water from tributaries of Peru Creek (tributary to Snake River) in sec.9, T.5 S., R.75 W., in Blue River basin, to Leavenworth Creek (tributary to South Clear Creek) in sec.10, T.5 S., R.75 W., in Platte River basin.

09050590 Harold D. Roberts tunnel diverts water from Dillon Reservoir (Blue River) in sec.18, T.5 S., R.77 W., in Blue River basin, to North Fork South Platte River (tributary to South Platte River) in SW¼SW¼ sec.4, T.7 S., R.74 W., in Platte River basin. Figures include a small amount of ground-water inflow between Dillon Reservoir and east portal of tunnel.

09061500 Columbine ditch diverts water from tributaries of Eagle River in sec.5, T.8 S., R.79 W., in Colorado River basin to Chalk Creek (tributary to East Fork Arkansas River) in NW¼ sec.9, T.8 S., R.79 W., in Arkansas River basin.

09062000 Ewing ditch diverts water from Piney Creek in sec.11, T.8 S., R.80 W., in Eagle River basin, to Thayer Gulch (tributary to Tennessee Creek) in sec.11, T.8 S., R.80 W., in Arkansas River basin.

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO--Continued

09062500 Wurtz ditch diverts water from tributaries of Eagle River between headgate in sec.32, T.7 S., R.80 W., and Tennessee Pass, in Colorado River basin, to West Tennessee Creek (tributary to Tennessee Creek) in sec.17, T.8 S., R.80 W., in Arkansas River basin.

09063700 Homestake tunnel diverts water from Homestake Lake (Middle Fork Homestake Creek), in sec.17, T.8 S., R.81 W., in Eagle River basin, to Lake Fork in sec.9, T.9 S., R.91 W., in Arkansas River basin. Water is imported to Homestake Lake from tributaries of Homestake Creek by collection conduits that extend from right bank of French Creek in sec.28, T.7 S., R.81 W., and left bank of East Fork Homestake Creek in sec.9, T.8 S., R.81 W., and intercept intermediate tributaries.

09073000 Twin Lakes tunnel diverts water from tributaries of Roaring Fork River between headgates (in sec.21, T.11 S., R.83 W., and sec.2, T.11 S., R.83 W.), and west portal of Twin Lakes tunnel (in sec.24, T.11 S., R.83 W), in Colorado River basin, to North Fork Lake Creek in sec.22, T.11 S., R.82 W., in Arkansas River basin.

09077160 Charles H. Boustead Tunnel diverts water from the main stem and tributaries of Fryingpan River (tributary to Roaring Fork River), in Colorado River basin, to Lake Fork in sec.10, T.9 S., R.81 W., in Arkansas River basin. Water is transported to west portal of tunnel (at lat 39°14'44", long 106°31'47"), by a series of collection conduits extending between headgates on right bank of Sawyer Creek at lat 39°15'58", long 106°38'19", and right bank of Fryingpan River at lat 39°14'40", long 106°31'49", and intercepting intermediate tributaries.

09077500 Busk-Ivanhoe tunnel diverts water from Ivanhoe Lake (Ivanhoe Creek), tributary to Fryingpan River in sec.13, T.9 S., R.82 W., in Roaring Fork River basin, to Busk Creek (tributary to Lake Fork) in sec.20, T.9 S., R.81 W., in Arkansas River basin.

09115000 Larkspur ditch diverts water from tributaries of Tomichi Creek between headgates (in sec.11, T.48 N., R.6 E., and sec.1, T.47 N., R.6 E.), and Marshall Pass, in Gunnison River basin, to Poncha Creek (tributary to South Arkansas River) in SE¼ sec.24, T.48 N., R.6 E., in Arkansas River basin.

09118200 Tarbell ditch diverts water from Lake Fork Cochetopa Creek (tributary to Cochetopa Creek), in NW¼ sec.18, T.43 N., R.2 E., in Gunnison River basin, to Lake Fork Saguache Creek (tributary to Middle Fork Saguache Creek) in NE¼ sec.18, T.43 N., R.2 E., in Rio Grande Basin. All records available prior to October 1960 published in WSP 1733.

REVISIONS (WATER YEARS).--WSP 1733: 1949-51.

09121000 Tabor ditch diverts water from tributaries of Cebolla Creek in secs.29 and 36, T.43 N., R.3 W., in Gunnison River basin, to Big Spring Creek (tributary to North Clear Creek) in sec.35, T.43 N., R.3 W., in Rio Grande basin.

09341000 Treasure Pass diversion ditch diverts water from tributaries of Wolf Creek between headgates (in sec.31, T.38 N., R.2 E., and sec.6, T.37 N., R.3 E.), and Wolf Creek Pass, in San Juan River basin, to tributary of South Fork Rio Grande in sec.31, T.38 N., R.2 E., in Rio Grande basin.

09347000 Don La Font ditches 1 and 2 divert water from tributaries of Piedra River between headgates in NW¼ sec.4, T.38 N., R.1 W., and SW¼ sec.33, T.39 N., R.1 W.), and Piedra Pass, in San Juan River basin, to South River in sec.4, T.38 N., R.1 W., in Rio Grande basin.

09348000 Williams Creek-Squaw Pass ditch diverts water from Williams Creek (tributary to Piedra River) in sec.13, T.39 N., R.3 W., in San Juan River basin, to Squaw Creek in sec.10, T.39 N., R.3 W., in Rio Grande basin.

09351000 Pine River-Weminuche Pass ditch diverts water from North Fork Los Pinos River (tributary to Los Pinos River) in sec.4, T.39 N., R.4 W., in San Juan River basin, to Weminuche Creek in sec.33, T.40 N., R.4 W., in Rio Grande basin.

09351500 Weminuche Pass ditch diverts water from left bank of Rincon la Vaca Creek (tributary to Los Pinos River) in sec.5, T.39 N., R.4 W., in San Juan River basin, to Weminuche Creek in sec.33, T.40 N., R.4 W., in Rio Grande basin.

TRANSMOUNTAIN DIVERSIONS FROM COLORADO RIVER BASIN IN COLORADO

DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Diversion		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Water year
TO PLATTE RIVER BASIN														
09010000	Grand River ditch...	0	0	0	0	0	0	0	0	5,530	6,360	1,150	286	13,330
09012000	Eureka ditch........	0	0	0	0	0	0	0	0	0	0	0	0	0
09013000	Alva B. Adams tunnel	12,580	12,830	14,750	17,800	19,980	18,340	8,600	4,860	1,940	12,190	19,060	14,520	157,400
09021500	Berthoud Pass ditch.	0	0	0	0	0	0	0	0	253	402	89	32	777
09022500	Moffat water tunnel.	2,630	910	712	637	474	459	514	3,140	9,490	11,830	5,350	3,110	39,260
09046000	Boreas Pass ditch...	0	0	0	0	0	0	0	0	0	28	5.4	0	33
09047300	Vidler tunnel.......	0	0	0	0	0	0	0	0	0	46	144	107	376
09050590	Harold D. Roberts tunnel............	3,980	6,300	4,860	4,890	4,370	1,760	0	0	0	666	13,810	11,330	51,940
Total.......................		19,190	20,040	20,320	23,330	24,820	20,560	9,110	8,000	17,210	31,520	39,610	29,380	263,120
TO ARKANSAS RIVER BASIN														
09042000	Hoosier Pass tunnel.	205	0	0	0	0	0	0	177	1,700	1,570	2,050	0	5,700
09061500	Columbine ditch.....	0	0	0	0	0	0	0	85	1,360	255	58	23	1,780
09062000	Ewing ditch.........	16	0	0	0	0	0	0	100	722	192	84	48	1,160
09062500	Wurtz ditch.........	0	0	0	0	0	0	0	311	2,460	461	75	28	3,340
09063700	Homestake tunnel....	0	0	4,490	6,120	7,600	2,290	5,820	5,640	0	0	0	0	31,960
09073000	Twin Lakes tunnel...	15	27	32	46	59	77	76	4,290	15,380	2,640	69	98	22,810
09077160	Charles H. Boustead Tunnel............	0	0	0	0	0	0	0	6,180	39,400	9,810	0	0	55,390
09077500	Busk-Ivanhoe tunnel.	23	10	0	0	0	0	0	296	4,580	949	54	38	5,950
09115000	Larkspur ditch......	18	0	0	0	0	0	0	0	149	161	37	7.5	371
Total.......................		277	37	4,520	6,170	7,660	2,370	5,900	17,080	65,750	16,040	2,430	242	128,460
TO RIO GRANDE BASIN														
09118200	Tarbell ditch.......	0	0	0	0	0	0	0	0	94	272	114	62	542
09121000	Tabor ditch.........	0	0	0	0	0	0	0	13	558	192	72	59	894
09341000	Treasure Pass diversion ditch........	0	0	0	0	0	0	0	0	180	110	0	0	290
09347000	Don La Font ditches No. 1 and 2.......	0	0	0	0	0	0	0	0	0	33	0	0	33
09348000	Williams Creek-Squaw Pass ditch........	0	0	0	0	0	0	0	0	0	0	0	0	0
09351000	Pine River-Weminuche Pass ditch........	0	0	0	0	0	0	0	0	41	109	0	0	150
09351500	Weminuche Pass ditch	0	0	0	0	0	0	0	0	1,140	790	0	0	1,930
Total.......................		0	0	0	0	0	0	0	13	2,010	1,510	186	121	3,840
Grand Total.................		19,470	20,080	24,840	29,500	32,480	22,930	15,010	25,090	84,970	49,070	42,230	31,920	395,420

NOTE: Due to method of computing water year figures and rounding procedures, totals do not agree.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of streamflow-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than streamflow-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a second table.

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING WATER YEAR 1980

Station number	Station name	Location	Total drainage area (mi²)	Non-contributing	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft³/s)
		PLATTE RIVER BASIN						
06708500	Deer Creek near Littleton, CO	Lat 39°32'56", long 105°07'59", in NE¼NE¼ sec.8, T.6 S., R.69 W., Jefferson County, 70 ft (21.3 m) upstream from county bridge over Deer Creek, 7.5 mi (12.1 km) southwest of Littleton.	26.2	-	1942-46, 1978-80	1978 1979 1980	(a) 5.55 6.22	(a) 125 320
06710200	Big Dry Creek tributary at Littleton, CO	Lat 39°35'46", long 104°57'06", in SE¼SW¼ sec.24, T.5 S., R.68 W., Arapahoe County, 500 ft (150 m) upstream from S. Clayton St., 1 mi (2 km) east of Littleton.	0.95	-	1969-80	8-14-80	12.82	122
06710350	Bear Creek near Evergreen, CO	Lat 39°38'11", long 105°20'51", in NW¼NW¼ sec.9, T.5 S., R.71 W., Jefferson County, 1.4 mi (2.3 km) upstream from confluence with Evergreen Lake, 1.6 mi (2.6 km) northwest of Evergreen.	(a)	-	1978-80	1978 1979 1980	(a) 7.17 7.37	(a) 378 465
06710400	Cub Creek at Evergreen, CO	Lat 39°37'50", long 105°19'16", in NW¼SE¼ sec.10, T.5 S., R.71 W., Jefferson County, 0.1 mi (0.2 km) upstream from confluence with Bear Creek.	(a)	-	1978-80	1978 1979 1980	(a) 7.10 7.41	(a) 150 244
06710600	Mt. Vernon Creek near Morrison, CO	Lat 39°40'49", long 105°11'50", in NW¼NW¼ sec.26, T.4 S., R.70 W., Jefferson County, 1.9 mi (3.1 km) north of Morrison.	(a)	-	1978-80	1978 1979 1980	(a) 8.84 9.25	(a) 24 47
06710990	Parmalee Gulch at mouth at Indian Hills, CO	Lat 39°36'57", long 105°13'54", in NW¼SE¼ sec.16, T.5 S., R.70 W., Jefferson County, 20 ft (6.1 m) upstream from box type culvert beneath U.S. Highway 285.	(a)	-	1978-80	1978 1979 1980	(a) 9.02 9.30	(a) 25 100
06711000	Turkey Creek near Morrison, CO	Lat 39°37'22", long 105°11'13", in NE¼NE¼ sec.14, T.5 S., R.70 W., Jefferson County, 2.2 mi (3.5 km) southwest of Morrison.	48.0	-	1942-53 1969 1978-80	1969 1978 1979 1980	(a) (a) 10.74 11.63	2,730 (a) 237 585
06711580	Harvard Gulch tributary at Englewood, CO	Lat 39°39'34", long 104°58'16", in NE¼SW¼ sec.35, T.4 S., R.68 W., Arapahoe County, 400 ft (120 m) east of S. Downing St. in Englewood.	.96	-	1971-80	8-14-80	12.20	160

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING YEAR 1980--Continued

Station number	Station name	Location	Total drainage area (mi²)	Non-contributing	Period of record	Annual maximum		
						Date	Gage height (feet)	Discharge (ft³/s)
		PLATTE RIVER BASIN--Continued						
06711600	Sanderson Gulch tributary at Lakewood, CO	Lat 39°41'19", long 105°04'54", in NE¼SW¼ sec.23, T.4 S., R.68 W., Jefferson County, 300 ft (91 m) upstream from S. Wadsworth Blvd., 300 ft (91 m) south of W. Florida Ave. in Lakewood.	.38	-	1969-80	8-14-80	11.68	45
06714310	Sand Creek tributary at Denver, CO	Lat 39°47'07", long 104°50'31", in SW¼SW¼ sec.13, T.3 S., R.67 W., Denver County, in median of Andrews Drive Parkway, 50 ft (15 m) downstream from Troy St. in Denver.	0.29	-	1971-80	8-14-80	11.31	77
06719560	Lena Gulch at Lakewood, CO	Lat 39°44'28", long 105°08'45", in SW¼SW¼ sec.32, T.3 S., R.69 W., Jefferson County, on right bank at culvert on Alkire St., 1,600 ft (488 m) from Youngfield St. and 2,600 ft (792 m) southwest of intersection of W. 20th Ave. and Youngfield St. in Lakewood. Discontinued 9-30-80.	a9.0	-	1974-80	5-05-80	14.17	450
06723000	Middle Fork St. Vrain Creek near Allens Park, CO	Lat 40°10'07", long 105°26'27", in SE¼NW¼ sec.3, T.2 N., R.72 W., Boulder County, 1.4 mi (2.2 km) northeast from Raymond.	28.0	-	1925-30 1978-80	1978 1979 1980	(a) 7.12 7.36	(a) 440 675
06727500	Fourmile Creek at Orodell, CO	Lat 40°01'06", long 105°19'33", in NW¼SE¼ sec.27, T.1 N., R.71 W., Boulder County, 2 mi (3.2 km) west of courthouse in Boulder.	24.1	-	1947-53 1978-80	1978 1979 1980	(a) 3.23 4.09	(a) 86 227
06728400	Boulder Creek tributary at Boulder, CO	Lat 39°58'48", long 105°14'41", in SE¼NE¼ sec.8, T.1 S., R.70 W., Boulder County, at culvert at State Highway 93 (Broadway), 2,400 ft (730 m) southeast of intersection of Broadway and Table Mesa Drive in Boulder.	.20	-	1970-80	4-30-80	11.51	28
06732500	Fall River at Estes Park, CO	Lat 40°22'40", long 105°31'56", in NW¼NW¼ sec.25, T.5 N., R.73 W., Larimer County, 100 ft (30.5 m) upstream from State bridge 34 and 0.7 mi (1.1 km) upstream from mouth.	(a)	-	1945-53, 1978-80	1978 1979 1980	8.49 8.18 8.56	520 350 565
06736650	Cedar Creek at Cedar Cove, CO	Lat 40°25'08", long 105°15'53", in NW¼NW¼ sec.8, T.5 N., R.70 W., Larimer County, 0.2 mi (0.32 km) north of Cedar Cove and 4.1 mi (6.6 km) southeast of Drake.	(a)	-	1978-80	1978 1979 1980	(a) 9.79 13.80	(a) 91 1,590
		KANSAS RIVER BASIN						
06825000	South Fork Republican River near Idalia, CO	Lat 39°36'59", long 102°14'32", in SE¼SW¼ sec.13, T.5 S., R.44 W., Yuma County, 0.7 mi (1.1 km) east of U.S. Highway 385 and 6.5 mi (10.5 km) southeast of Idalia.	a1,300	-	1950-80	1980	10.58	3,000
06825500	Landsman Creek near	Lat 39°34'32", long 102°15'06", in SE¼ sec.35, T.5 S., R.44 W., Yuma County, on right bank 900 ft (270 m) upstream from bridge on U.S. Highway 385, 3.2 mi (5.1 km) upstream from mouth, and 7 mi (11 km) southwest of Hale.	268	-	1950-80	1980	12.58	2,840

ANNUAL MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS DURING YEAR 1980--Continued

Station number	Station name	Location	Total drainage area (mi²)	Non-contrib-uting	Period of record	Annual maximum		
						Date	Gage height (feet)	Dis-charge (ft³/s)
			ARKANSAS RIVER BASIN					
07091000	Chalk Creek near Nathrop, CO	Lat 38°44'01", long 106°09'34", in SE¼NW¼ sec.19, T.15 S., R.78 W., Chaffee County, 4 mi (6.4 km) west of Nathrop.	97.0	-	1910, 1949-56, 1978-80	1978	(a)	(a)
						1979	2.59	590
						1980	(a)	(a)
07107500	St. Charles River at Burnt Mill, CO	Lat 38°03'06", long 104°47'35", in NE¼NE¼ sec.17, T.23 S., R.66 W., Pueblo County, 5.9 mi (9.5 km) downstream from North St. Charles River.	166	-	1923-33, 1978-80	1978	(a)	(a)
						1979	3.84	1,040
						1980	6.13	3,300

a Not determined.

Station no.	Stream	Tributary to	Location	Measured previously (water years)	Date	Discharge (ft³/s)
			PLATTE RIVER BASIN			
--------	Sacramento Creek above Fairplay, CO	Middle Fork South Platte River	Lat 39°13'26", long 106°04'06"	1979	10-02-79	3.69
					11-07-80	1.93
					12-05-80	.00
					01-22-80	.00
					02-26-80	.39
					03-26-80	.25
					04-16-80	.80
					05-01-80	1.61
					05-30-80	42.3
					06-18-80	89.6
					07-25-80	24.8
					08-22-80	4.16
					09-19-80	1.53
--------	Crooked Creek near Red Hill Pass, near Fairplay, CO	Middle Fork South Platte River	Lat 39°16'43", long 105°59'00"	1979	10-03-79	.30
					11-07-79	.29
					01-25-80	.22
					02-26-80	.19
					03-25-80	.61
					05-01-80	.86
					05-30-80	1.78
					06-18-80	13.0
					07-23-80	.96
					08-22-80	.46
					09-18-80	.11
--------	Trout Creek near Como, CO	Middle Fork South Platte River	Lat 39°16'39", long 105°55'00"	1979	10-02-79	1.80
					11-05-79	.84
					12-03-79	1.18
					01-25-80	.68
					02-25-80	.46
					03-25-80	1.47
					04-15-80	1.04
					05-01-80	4.24
					05-30-80	3.62
					06-18-80	17.4
					07-22-80	3.08
					08-19-80	2.46
					09-19-80	.76
--------	Salt Creek near Antero Junction, CO	Antero Reservoir	Lat 38°57'22", long 106°00'52"	1979	10-04-79	.41
					11-08-79	.41
					01-23-80	.00
					03-27-80	.07
					04-17-80	.45
					05-27-80	34.0
					06-20-80	14.8
					07-23-80	6.83
					08-22-80	.57
					09-19-80	.40
--------	Threemile Creek near Elevenmile Canyon Reservoir, CO	South Platte River	Lat 38°56'08", long 105°36'57"	1979	10-04-79	.24
					11-06-79	.25
					12-04-79	.23
					01-24-80	---
					02-27-80	.32
					03-27-80	.43
					04-17-80	.44
					05-27-80	8.11
					06-20-80	8.25
					07-25-80	.71
					08-22-80	.20
					09-19-80	.08
			ARKANSAS RIVER BASIN			
--------	Arkansas River at Pine Creek School Granite, CO		Lat 38°58'38", long 106°12'46"	1979	06-11-80	4,530
					07-21-80	925

Three series of discharge measurements were made in South Park in the South Platte River basin in Colorado, before, during, and after local irrigation season. In addition to discharge, temperature and specific conductance were often measured. The first series of measurements was made before irrigation season on May 14, 15, and 24, 1979. The second series was made during irrigation season on June 26-28, 1979. The third series was made after irrigation season on August 28-30, 1979.

Site no.	Station name	Location	Date of measurement	Discharge (ft^3/s)	Gain or loss	Temperature (°C)	Specific conductance (μmhos/cm)
		MIDDLE FORK SOUTH PLATTE RIVER					
1.0	Middle Fork South Platte River above Fairplay (06693980).	NW¼SW¼ sec.29, T.9 S., R.77 W.	05-15-79	28.6	------	5.0	290
			06-27-79	267	------	7.0	120
			08-29-79	40.2	------	8.0	200
2.0	Sacramento Creek, near mouth, above Fairplay.	SE¼SW¼ sec.29, T.9 S., R.77 W.	05-15-79	a17	------	-----	---
			06-27-79	46.6	------	5.0	90
			08-29-79	5.56	------	6.5	110
3.0	Middle Fork South Platte River at Fairplay.	SW¼SW¼ sec.34, T.9 S., R.77 W.	05-15-79	25.8	-19.8	7.0	290
			06-27-79	273	-40.6	8.5	140
			08-29-79	47.8	+2.0	11.0	200
4.0	Antero Feeder ditch near Fairplay----	SW¼SE¼ sec.34, T.9 S., R.77 W.	05-15-79	------	------	-----	---
			06-27-79	b6.23	------	9.5	140
			08-29-79	b5.88	------	-----	---
4.5	Antero Feeder ditch near Fairplay----	NE¼NE¼ sec.3, T.10 S., R.77 W.	05-15-79	4.98	------	6.5	325
			06-27-79	------	------	-----	---
			08-29-79	------	------	-----	---
5.0	Beaver Creek at mouth near Fairplay--	SW¼SE¼ sec.34, T.9 S., R.77 W.	05-15-79	.42	------	6.5	475
			06-27-79	13.4	------	10.5	280
			08-29-79	1.75	------	8.0	350
6.0	Anderson No. 1 ditch near Fairplay---	SW¼SE¼ sec.34, T.9 S., R.77 W.	05-15-79	3.75	------	5.0	335
			06-27-79	9.19	------	10.5	260
			08-29-79	0	------	-----	---
7.0	Anderson No. 2 ditch near Fairplay---	NE¼NE¼ sec.3, T.10 S., R.77 W.	05-15-79	0	------	-----	---
			06-27-79	b12.6	------	8.0	140
			08-29-79	0	------	-----	---
8.0	Unnamed ditch near Fairplay----------	SW¼NE¼ sec.2, T.10 S., R.77 W.	05-15-79	0	------	-----	---
			06-27-79	1.59	------	8.5	130
			08-29-79	0	------	-----	---
9.0	D.F. Miller ditch near Fairplay------	SE¼SW¼ sec.2, T.10 S., R.77 W.	05-15-79	c0	------	-----	---
			06-27-79	10.1	------	11.5	150
			08-29-79	c0	------	-----	---
10.0	Anderson No. 3 ditch near Fairplay---	NW¼SW¼ sec.2, T.10 S., R.77 W.	05-15-79	0	------	-----	---
			06-27-79	b8.49	------	9.0	130
			08-29-79	0	------	-----	---
11.0	Park ditch near Fairplay-------------	NE¼SW¼ sec.2, T.10 S., R.77 W.	05-15-79	c12	------	-----	---
			06-27-79	c12	------	-----	---
			08-29-79	b0	------	-----	---
12.0	Miller-Chapman ditch near Fairplay---	NE¼SW¼ sec.2, T.10 S., R.77 W.	05-15-79	0	------	-----	---
			06-27-79	b12.9	------	-----	---
			08-29-79	0	------	-----	---
13.0	Miller-Chapman enlargement ditch near Fairplay.	NW¼SE¼ sec.2, T.10 S., R.77 W.	05-15-79	0	------	-----	---
			06-27-79	b9.27	------	-----	---
			08-29-79	0	------	-----	---
14.0	Crooked Creek at mouth near Fairplay-	SE¼SW¼ sec.12, T.10 S., R.77 W.	05-15-79	2.10	------	10.5	380
			06-27-79	38.9	------	19.0	335
			08-29-79	2.99	------	10.0	390
15.0	Bonell ditch at Highway 9 near Fairplay.	SW¼SW¼ sec.13, T.10 S., R.77 W.	05-15-79	1.90	------	9.0	390
			06-27-79	32.9	------	20.5	230
			08-29-79	0	------	-----	---
16.0	Middle Fork South Platte River at Highway 9 near Fairplay.	SW¼NE¼ sec.24, T.10 S., R.77 W.	05-15-79	21.8	+16.1	9.0	305
			06-27-79	258	+48	13.0	160
			08-29-79	48.7	+2.0	12.0	220
17.0	Raynor-Edmundson No. 1 ditch near Garo.	SE¼SE¼ sec.24, T.10 S., R.77 W.	05-15-79	0	------	-----	---
			06-27-79	c4	------	-----	---
			08-29-79	c0	------	-----	---
18.0	Sigafus ditch near Garo--------------	SE¼SE¼ sec.19, T.10 S., R.76 W.	05-15-79	0	------	-----	---
			06-27-79	d14.7	------	10.5	165
			08-29-79	0	------	-----	---
19.0	Unnamed tributary from west near Garo	NE¼SE¼ sec.26, T.10 S., R.77 W.	05-15-79	0	------	-----	---
			06-27-79	0	------	-----	---
			08-29-79	0	------	-----	---
20.0	Prince ditch near Garo---------------	NE¼NE¼ sec.8, T.11 S., R.76 W.	05-15-79	b.42	------	-----	---
			06-27-79	b11.7	------	16.0	220
			08-29-79	0	------	-----	---

Site no.	Station name	Location	Date of measurement	Discharge (ft^3/s)	Gain or loss	Temperature (°C)	Specific conductance (μmhos/cm)
	MIDDLE FORK SOUTH PLATTE RIVER--Continued						
21.0	Elisha-Alden ditch near Garo---------	NE¼NE¼ sec.8, T.11 S., R.76 W.	05-15-79	b5.23	------	13.0	425
			06-27-79	0	------	-----	---
			08-29-79	0	------	-----	---
22.0	Guiraud ditch at Garo----------------	NW¼NE¼ sec.9, T.11 S., R.76 W.	05-15-79	2.15	------	12.5	465
			06-27-79	0	------	-----	---
			08-29-79	0	------	----	---
23.0	Middle Fork South Platte River at Highway 9 at Garo.	SW¼NE¼ sec.9, T.11 S., R.76 W.	05-15-79	22.9	+8.9	10.0	395
			06-27-79	220	-8	15.0	200
			08-29-79	51.2	+2.5	16.0	240
24.0	Wadley No. 1 ditch inflow near Garo--	SW¼NW¼ sec.20, T.10 S., R.76 W.	05-15-79	------	------	-----	---
			06-27-79	d9.05	------	13.0	460
			08-29-79	0	------	-----	---
24.5	Wadley No. 1 ditch inflow near Garo--	SW¼NW¼ sec.33, T.10 S., R.76 W.	05-15-79	0	------	-----	---
			06-27-79	------	------	-----	---
			08-29-79	------	------	-----	---
26.0	Trout Creek ditch inflow near Garo---	SE¼NW¼ sec.20, T.10 S., R.76 W.	05-15-81	------	------	-----	---
			06-27-79	d0	------	-----	---
			08-29-79	2.31	------	21.0	190
26.5	Trout Creek ditch inflow near Garo---	SW¼NE¼ sec.33, T.10 S., R.76 W.	05-15-81	.50	------	18.0	710
			06-27-79	------	------	-----	---
			08-29-79	------	------	-----	---
27.0	Wadley No. 2 ditch inflow near Garo-	NW¼SW¼ sec.20, T.10 S., R.76 W.	05-15-81	------	------	-----	---
			06-27-79	d8.71	------	14.0	600
			08-29-79	0	------	-----	---
27.5	Wadley No. 2 ditch inflow near Garo--	NE¼SW¼ sec.33, T.10 S., R.76 W.	05-15-81	.24	------	17.5	1260
			06-27-79	------	------	-----	---
			08-29-79	------	------	-----	---
28.0	Fehringer No. 2 ditch near Garo------	SW¼NE¼ sec.23, T.11 S., R.76 W.	05-15-81	c2	------	-----	---
			06-27-79	b10.5	------	17.0	300
			08-29-79	e.1	------	22.0	260
28.5	Fehringer No. 2 ditch near Garo------	SE¼SW¼ sec.19, T.11 S., R.75 W.	05-15-81	0	------	-----	---
			06-27-79	------	------	-----	---
			08-29-79	------	------	-----	---
29.0	Seepage above Santa Maria Ranch, inflow near Hartsel.	NW¼NW¼ sec.30, T.11 S., R.75 W.	05-15-81	e.1	------	-----	---
			06-27-79	------	------	-----	---
			08-29-79	0	------	-----	---
30.0	Middle Fork South Platte River at Santa Maria Ranch near Hartsel.	NE¼SW¼ sec.30, T.11 S., R.75 W.	05-15-81	27.1	+5.4	13.5	465
			06-27-79	243	+16	15.5	270
			08-29-79	48.2	-5.2	18.0	250
31.0	Big Thompson ditch near Hartsel------	NE¼NE¼ sec.31, T.11 S., R.75 W.	05-15-81	c3	------	-----	---
			06-27-79	d21.1	------	11.0	260
			08-29-79	f1.11	------	-----	230
32.0	Euler ditch near Hartsel-------------	SE¼NW¼ sec.32, T.11 S., R.75 W.	05-15-81	c0	------	-----	---
			06-27-79	b,d3.54	------	12.0	260
			08-29-79	f0	------	-----	---
33.0	Middle Fork South Platte River near Hartsel (06694100).	SE¼NE¼ sec.10, T.12 S., R.75 W.	05-15-81	20.7	-3.4	13.0	495
			06-27-79	245	+27	18.0	300
			08-29-79	50.8	+3.7	18.5	270
	SOUTH PLATTE RIVER						
1.0	South Platte River near Hartsel------	NW¼SW¼ sec.18, T.12 S., R.74 W.	05-23-79	19.8	------	10.0	650
			06-28-79	398	------	14.0	750
			08-30-79	69.4	------	14.0	460
2.0	Harrington South ditch near Hartsel--	SW¼NE¼ sec.17, T.12 S., R.74 W.	05-23-79	7.1	------	12.0	650
			06-28-79	5.10	------	16.0	700
			08-30-79	0	------	-----	---
3.0	Foster ditch near Hartsel------------	NW¼SW¼ sec.26, T.12 S., R.74 W.	05-23-79	0	------	-----	---
			06-28-79	6.80	------	-----	850
			08-30-79	e.1	------	21.5	400
4.0	Buffalo Gulch at mouth, near Hartsel-	NW¼SW¼ sec.26, T.12 S., R.74 W.	05-23-79	.13	------	22.0	1450
			06-28-79	0	------	-----	---
			08-30-79	0	------	-----	---
5.0	South Platte River near Spinney Mountain, near Hartsel.	SW¼SE¼ sec.26, T.12 S., R.74 W.	05-23-79	21.9	+9.1	17.0	1000
			06-28-79	------	------	18.0	875
			08-30-79	66.3	-3.0	16.0	440
6.0	Three Mile Creek near mouth, near Hartsel.	SW¼SW¼ sec.31, T.12 S., R.73 W.	05-23-79	.17	------	17.0	700
			06-28-79	e.1	------	-----	---
			08-30-79	0	------	-----	---

Site no.	Station name	Location	Date of measurement	Discharge (ft^3/s)	Gain or loss	Temperature (°C)	Specific conductance (μmhos/cm)
		SOUTH PLATTE RIVER--Continued					
7.0	South Platte River above Elevenmile Canyon Reservoir, near Hartsel (06695000).	SW¼NE¼ sec.32, T.12 S., R.73 W.	05-23-79	24.3	+2.2	16.0	875
			06-28-79	367	-19.2	19.0	760
			08-30-79	65.0	-1.3	15.5	500
		TARRYALL CREEK					
1.0	Tarryall Creek at upper station, near Como.	NW¼SE¼ sec.20, T.8 S., R.76 W.	05-14-79	12.7	------	9.0	<50
			06-26-79	94.3	------	4.0	110
			08-28-79	17.0	------	8.5	130
2.0	Unnamed tributary no. 1 near Como	NW¼NE¼ sec.20, T.8 S., R.76 W.	05-14-79	------	------	-----	---
			06-26-79	.70	------	10.0	71
			08-28-79	.11	------	11.0	60
3.0	Unnamed tributary no. 2 near Como	SE¼SE¼ sec.17, T.8 S., R.76 W.	05-14-79	------	------	-----	---
			06-26-79	.42	------	13.0	69
			08-28-79	.11	------	-----	---
4.0	Peabody No. 2 ditch near Como	NW¼SE¼ sec.20, T.8 S., R.76 W.	05-14-79	0	------	-----	---
			06-26-79	5.42	------	10.5	120
			08-28-79	0	------	-----	---
5.0	Fremont ditch near Como	NW¼SE¼ sec.20, T.8 S., R.76 W.	05-14-79	.14	------	4.0	160
			06-26-79	4.81	------	10.5	---
			08-28-79	0	------	-----	---
6.0	Hollthusen Gulch near Como	SE¼SE¼ sec.17, T.8 S., R.76 W.	05-14-79	------	------	-----	---
			06-26-79	------	------	-----	---
			08-28-79	.59	------	6.5	67
7.0	Slater ditch near Como	SE¼SW¼ sec.21, T.8 S., R.76 W.	05-14-79	0	------	-----	---
			06-26-79	3.56	------	12.0	110
			08-28-79	0	------	-----	---
8.0	Montag-Truax ditch near Como	NW¼NE¼ sec.28, T.8 S., R.76 W.	05-14-79	c0	------	-----	---
			06-26-79	0	------	-----	---
			08-28-79	------	------	-----	---
9.0	Anderson-Brewer ditch near Como	SE¼SW¼ sec.21, T.8 S., R.76 W.	05-14-79	c0	------	-----	---
			06-26-79	2.85	------	13.0	130
			08-28-79	------	------	-----	---
10.0	McCartney ditch near Como	SW¼SW¼ sec.22, T.8 S., R.76 W.	05-14-79	0	------	-----	---
			06-26-79	g8.42	------	8.5	---
			08-28-79	.10	------	19.0	185
11.0	Packer ditch near Como	SW¼SE¼ sec.22, T.8 S., R.76 W.	05-14-79	.49	------	7.0	190
			06-26-79	b2.96	------	-----	---
			08-28-79	.13	------	16.5	250
12.0	Tarryall Creek at Highway 285, near Como.	NE¼NE¼ sec.27, T.8 S., R.76 S.	05-14-79	10.5	-1.6	8.5	180
			06-26-79	61.2	-6.2	7.5	120
			08-28-79	15.0	-2.5	11.0	440
13.0	Dunbar No. 1 ditch near Como	NE¼NE¼ sec.27, T.8 S., R.76 W.	05-14-79	0	------	-----	---
			06-26-79	6.82	------	12.0	125
			08-28-79	0	------	-----	---
14.0	Harlan ditch near Como	NE¼NE¼ sec.27, T.8 S., R.76 W.	05-14-79	b.33	------	15.0	180
			06-26-79	b6.56	------	-----	---
			08-28-79	b.03	------	-----	---
15.0	Dunbar ditch near Como	SW¼NE¼ sec.26, T.8 S., R.76 W.	05-14-79	e.05	------	-----	210
			06-26-79	b11.5	------	12.5	130
			08-28-79	b.02	------	-----	---
16.0	Petri ditch near Como	SE¼SE¼ sec.31, T.8 S., R.75 W.	05-14-79	e.10	------	-----	---
			06-26-79	2.34	------	12.0	125
			08-28-79	.30	------	-----	---
17.0	Link ditch near Como	SE¼SE¼ sec.31, T.8 S., R.75 W.	05-14-79	1.30	------	10.5	205
			06-26-79	5.02	------	13.0	130
			08-28-79	0	------	-----	---
18.0	Tarryall Creek below Collard Ranch, near Como.	NW¼NW¼ sec.5, T.9 S., R.75 W.	05-14-79	9.97	+1.25	-----	---
			06-26-79	------	------	13.0	140
			08-28-79	15.2	+.6	-----	180
19.0	Packer Gulch near mouth, near Como	NE¼SW¼ sec.4, T.9 S., R.75 W.	05-14-79	.08	------	15.0	945
			06-26-79	6.34	------	24.5	340
			08-28-79	0	------	-----	---
20.0	Tarryall Creek above Park Gulch, near Como.	NW¼SW¼ sec.9, T.9 S., R.75 W.	05-14-79	11.7	+1.6	13.5	230
			06-26-79	55.0	+19.7	15.5	220
			08-28-79	15.3	+.1	17.5	185
21.0	Park Gulch at mouth, near Como	NW¼SW¼ sec.9, T.9 S., R.75 W.	05-14-79	.36	------	18.5	1310
			06-26-79	2.06	------	19.0	490
			08-28-79	e.3	------	20.0	810

Site no.	Station name	Location	Date of measurement	Discharge (ft³/s)	Gain or loss	Temperature (°C)	Specific conductance (µmhos/cm)
		TARRYALL CREEK--Continued					
22.0	Indian Gulch near Jefferson----------	NE¼SE¼ sec.15, T.9 S., R.75 W.	05-14-79	h0	------	-----	---
			06-26-79	------	------	-----	---
			08-28-79	------	------	-----	---
23.0	Michigan Creek at mouth, near Jefferson.	SW¼NW¼ sec.1, T.9 S., R.75 W.	05-14-79	26.9	------	12.9	280
			06-26-79	98.1	------	14.0	220
			08-28-79	30.9	------	13.0	90
24.0	Mud Gulch at mouth, near Jefferson---	SE¼NW¼ sec.1, T.9 S., R.75 W.	05-14-79	0	------	-----	---
			06-26-79	0	------	-----	---
			08-28-79	0	------	-----	---
25.0	McManus ditch near Jefferson---------	SE¼SE¼ sec.1, T.9 S., R.75 W.	05-14-79	0	------	-----	---
			06-26-79	c9.0	------	-----	---
			08-28-79	c0	------	-----	---
26.0	Unnamed tributary near Jefferson-----	NE¼SE¼ sec.1, T.9 S., R.75 W.	05-14-79	0	------	-----	---
			06-26-79	------	------	-----	---
			08-28-79	------	------	-----	---
27.0	Tarryall Creek near Jefferson (06698500).	NE¼SE¼ sec.1, T.9 S., R.75 W.	05-14-79	37.1	-1.9	14.0	275
			06-26-79	145	-1.2	15.5	230
			08-28-79	45.4	-1.1	16.0	120
		MISCELLANEOUS STATIONS					
----	Beaver Creek at Highway 285, near Fairplay.	NE¼NW¼ sec.34, T.9 S., R.77 W.	05-15-79	.77	------	14.5	340
			06-27-79	------	------	-----	---
			08-28-79	------	------	-----	---
----	Crooked Creek ditch at Highway 285, near Fairplay.	SW¼SE¼ sec.23, T.9 S., R.77 W.	05-15-79	c0	------	-----	---
			06-27-79	4.79	------	9.0	430
			08-28-79	.73	------	7.0	340
----	South branch Crooked Creek at Highway 285, near Fairplay.	SE¼SW¼ sec.23, T.9 S., R.77 W.	05-15-79	e.1	------	-----	---
			06-27-79	------	------	-----	---
			08-28-79	0	------	-----	---
----	North branch Crooked Creek at Highway 285, near Fairplay.	SE¼SW¼ sec.23, T.9 S., R.77 W.	05-15-79	.34	------	18.0	595
			06-27-79	e1.0	------	12	660
			08-28-79	e.12	------	-----	---
----	South Crooked Creek at Highway 285, near Fairplay.	SW¼NW¼ sec.26, T.9 S., R.77 W.	05-15-79	e.1	------	-----	---
			06-27-79	0	------	-----	---
			08-28-79	.35	------	13.0	310
----	Alkaline ditch at Highway 9, near Fairplay.	NE¼NW¼ sec.24, T.10 S., R.77 W.	05-15-79	1.41	------	9.0	390
			06-27-79	8.93	------	21.0	295
			08-28-79	1.98	------	14.5	360
----	Sigafus ditch near Garo--------------	NE¼NE¼ sec.5, T.11 S., R.76 W.	05-15-79	c0	------	-----	---
			06-28-79	49.7	------	-----	200
			08-28-79	c0	------	-----	---

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a Estimated.
b From flume rating.
c Data from county water commissioner.
d Measurement made June 28, 1979.
e Field estimate.
f Measurement made August 30, 1979.
g Measurement made June 27, 1979.
h Measurement made May 15, 1979.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

Samples are collected at sites other than gaging stations and partial-record stations to give coverage in a river basin. Such sites are referred to as miscellaneous sites.

PLATTE RIVER BASIN

COOPERATION.--Water-quality data for those stations marked with * provided by U.S. Army, Corps of Engineers, Omaha.

06709610 - SOUTH PLATTE RIVER BELOW CHATFIELD LAKE, CO. *

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
FEB 05...	1240	49	400	7.8	4.0	2.0	8.0	138	39	10	108	52
JUN 23...	1150	2200	260	7.8	17.5	3.0	8.2	85	23	7.0	66	28
JUL 22...	1020	425	390	7.6	21.0	19	6.2	120	29	11	86	46
AUG 19...	1220	350	400	7.2	20.0	--	7.6	129	32	12	96	163

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)
FEB 05...	4.0	212	2	2.1	.00	.22	4.8	5.00	.00	.00	.0
JUN 23...	22	198	2	.07	.00	.02	.38	.40	.03	.00	.0
JUL 22...	34	306	3	.14	.00	.01	.29	.30	.04	.00	.0
AUG 19...	36	238	1	.07	.00	.01	.29	.30	.01	.00	.0

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
FEB 05...	80	1	0	1	7	1	113	10	250
JUL 22...	290	1	0	0	7	0	296	0	149

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
FEB 05...	3	0	1	--	0	.00	0	.0
JUL 22...	0	0	0	.00	5	.00	0	.0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

06711000 - TURKEY CREEK NEAR MORRISON, CO.*

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	ALKA-LINITY FIELD (MG/L AS CACO3)
FEB 11...	1350	1.0	1100	7.6	4.0	3.0	10.5	1036	170	148	160
JUN 24...	0900	5.0	600	7.8	14.0	3.0	8.0	257	81	13	110
JUL 22...	1630	2.0	900	8.6	24.0	15	6.4	399	126	20	116
AUG 19...	1430	.00	1400	8.3	18.5	1.0	7.9	703	247	21	136

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
FEB 11...	348	11	828	4	.09	.00	.05	.25	.30	.20	.20
JUN 24...	150	8.0	434	8	.66	.00	.03	.32	.35	.04	.02
JUL 22...	267	49	784	2	.32	.00	.01	.49	.50	.05	.00
AUG 19...	187	52	1082	3	.42	.00	.02	.18	.20	.02	.00

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
FEB 11...	200	2	10	3	9	3	336	20	42
JUN 24...	--	--	--	--	--	--	--	--	--
JUL 22...	40	1	0	0	--	7	251	30	38
AUG 19...	--	--	--	--	--	--	--	--	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
FEB 11...	.0	7	2	1	--	2	.00	0	.0
JUN 24...	.0	--	--	--	--	--	--	--	--
JUL 22...	.0	14	3	0	.00	5	.00	0	.0
AUG 19...	.0	--	--	--	--	--	--	--	--

06711100 - BEAR CREEK LAKE AT LAKEWOOD, CO. *

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TRANSPARENCY (SECCHI DISK) (IN)	OXYGEN, DISSOLVED (MG/L)
FEB							
11...	1550	.0	270	8.4	.0	4.0	10.8
11...	1551	1.0	250	8.3	.0	--	10.5
11...	1552	3.0	285	8.1	1.0	--	9.9
11...	1553	9.0	325	7.7	3.0	--	6.1
11...	1554	16	520	7.6	3.0	--	5.8
11...	1555	5.0	--	--	--	--	--
JUN							
25...	1400	.0	145	8.9	21.0	46.0	11.0
25...	1401	1.0	145	9.0	20.0	--	10.8
25...	1402	3.0	140	9.0	19.0	--	10.8
25...	1403	9.0	130	7.8	15.0	--	8.6
25...	1404	16	145	7.4	12.0	--	6.4
25...	1405	22	165	7.3	10.0	--	6.0
25...	1406	29	170	7.2	9.0	--	5.2
25...	1407	36	170	7.2	9.0	--	3.8
25...	1408	5.0	--	--	--	--	--
JUL							
23...	1340	.0	215	9.1	24.0	36.0	11.1
23...	1341	1.0	210	9.0	23.5	--	11.0
23...	1342	3.0	210	9.2	23.0	--	9.4
23...	1343	9.0	215	8.4	20.5	--	3.9
23...	1344	16	170	7.0	12.5	--	.4
23...	1345	22	170	7.0	11.0	--	.2
23...	1346	29	130	7.5	10.0	--	.2
23...	1347	5.0	--	--	--	--	--
AUG							
21...	1000	.0	295	8.3	19.5	80.0	5.4
21...	1001	1.0	290	8.2	19.0	--	5.3
21...	1002	3.0	290	8.2	19.0	--	5.0
21...	1003	9.0	295	8.0	19.0	--	4.5
21...	1004	16	210	7.1	15.0	--	.4
21...	1005	22	190	7.0	12.0	--	.3
21...	1006	29	200	6.9	11.0	--	.2
21...	1007	5.0	--	--	--	--	--

06711100 - BEAR CREEK LAKE AT LAKEWOOD, CO. *

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)	ALKALINITY FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)
FEB 11...	1555	5.0	2.0	255	72	18	83	58	3.0	240
JUN 25...	1408	5.0	5.0	53	14	4.0	41	14	32	128
JUL 23...	1347	5.0	19	77	21	6.0	52	33	6.0	176
AUG 21...	1007	5.0	2.0	95	28	6.0	69	49	8.0	150

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	CHLOROPHYLL, TOTAL, PHYTOPLNKTN, UNCORR. (UG/L)
FEB 11...	4	.89	.00	.35	.45	.80	.23	.20	.4	8.3
JUN 25...	12	.12	.00	.12	--	--	.06	.01	.3	18
JUL 23...	7	.07	.00	.13	--	--	.08	.00	.7	20
AUG 21...	2	.05	.00	.38	--	--	.16	.08	.2	9.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
FEB 11...	120	1	0	1	11	5	102	11
JUL 23...	200	--	--	--	--	0	247	0

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
FEB 11...	87	5	0	0	17	.00	0	.0
JUL 23...	125	--	1	--	--	.00	0	.0

06712850 - CHERRY CREEK ABOVE CHERRY CREEK LAKE, CO. *

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	ALKA-LINITY FIELD (MG/L AS CACO3)
JUN 23...	1425	.00	950	7.5	19.0	4.0	7.3	410	131	--	264
JUL 24...	0930	.00	925	7.2	11.0	14	7.8	386	126	18	242
AUG 22...	0930	.00	925	7.3	11.0	--	6.4	385	126	17	244

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
JUN 23...	372	34	--	15	4.3	.00	.13	.62	.75	.15	.10
JUL 24...	170	35	710	1	6.2	.00	.01	.19	.20	.19	.15
AUG 22...	270	33	638	6	6.7	.00	.02	.28	.30	.18	.15

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
JUN 23...	--	--	--	--	--	--	--	--	--
JUL 24...	40	3	0	2	7	0	117	20	110
AUG 22...	--	--	--	--	--	--	--	--	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	THAL-LIUM, TOTAL (UG/L AS TL)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS (UG/L)	PCB, TOTAL (UG/L)
JUN 23...	.0	--	--	--	--	--	--	--	--
JUL 24...	.0	14	12	0	.00	12	.00	0	.0
AUG 22...	.0	--	--	--	--	--	--	--	--

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

390327105055001 - TROUT CREEK NEAR WOODLAND PARK

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
APR										
30...	1400	6.6	170	7.9	4.0	10.3	.7	<1	--	--
MAY										
29...	1415	6.9	275	7.6	3.0	9.6	.8	K 3	--	--
JUN										
25...	0815	2.5	179	8.0	8.5	9.1	.8	--	--	--
JUL										
30...	1345	--	200	--	20.0	6.7	1.0	44	71	0
AUG										
28...	0800	--	200	8.1	10.0	8.0	.6	K 100	--	--
SEP										
30...	1330	2.4	173	8.3	9.0	8.7	1.8	<10	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
APR										
30...	--	--	--	--	.15	<.010	.26	.26	.41	.010
MAY										
29...	--	--	--	--	.11	<.010	.06	.06	.17	.010
JUN										
25...	--	--	--	--	.10	.020	.19	.21	.31	<.010
JUL										
30...	23	3.2	95		.08	.030	.40	.43	.51	.050
AUG										
28...	--	--	--	--	.18	5.70	.00	5.70	5.9	.060
SEP										
30...	--	--	--	--	.13	.110	.07	.18	.31	.020

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
APR											
30...	1400	<1	<20	ND	ND	ND	<100	<2	<20	<2	240
MAY											
29...	1415	1	<20	ND	ND	ND	<100	ND	<20	ND	510
JUL											
30...	1345	<1	<20	ND	ND	ND	ND	<2	<20	ND	300

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR										
30...	140	<200	<2	50	30	<.5	<.5	<1	ND	ND
MAY										
29...	150	<200	2	30	50	<.5	<.5	<1	5	5
JUL										
30...	90	<200	ND	60	20	<.5	<.5	<1	30	ND

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 29...	1330	--	188	8.1	6.0	9.2	.5	K18	81	13	26
NOV 26...	0745	2.5	190	7.0	.0	10.6	.2	K6	--	--	--
DEC 31...	0900	2.0	203	6.8	.0	11.0	.1	48	--	--	--
JAN 28...	0910	2.0	200	7.3	.5	10.0	.3	K10	73	4	23
FEB 25...	1215	1.5	203	7.8	.0	11.0	.2	K7	--	--	--
MAR 25...	1215	2.5	155	7.0	4.0	9.8	<1.0	<0	--	--	--
APR 30...	0830	3.7	192	7.6	2.5	10.0	.2	600	69	0	21
MAY 28...	0800	2.5	195	7.6	7.0	9.0	.4	230	--	--	--
JUN 25...	0745	2.0	182	7.7	8.0	--	.6	56	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 29...	3.9	83	0		.16	--	<.010	.21	.21	.37	.020
NOV 26...	--	80	--		.33	--	.010	.86	.87	1.2	.040
DEC 31...	--	85	--		.53	--	.040	.54	.58	1.1	.020
JAN 28...	3.8	84	--		.69	--	.020	.29	.31	1.0	<.010
FEB 25...	--	81	--		.08	--	--	--	.10	.18	.010
MAR 25...	--	73	--		.50	--	.040	.10	.14	.64	.010
APR 30...	3.9	84	--		.20	--	.020	.31	.33	.59	<.010
MAY 28...	--	91	--		.16	.0	--	--	.14	.30	<.010
JUN 25...	--	92	--		.02	--	<.010	.12	.12	.32	.010

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
OCT 29...	1330	<1	ND	ND	<20	ND	--	<100
JAN 28...	0910	<1	<20	ND	ND	ND	0	<100
APR 30...	0830	2	<20	ND	ND	ND	0	<100

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	IRON, FERRIC PLUS FERROUS DIS-SOLVED (UG/L)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT 29...	2	ND	ND	160	30	--	<200	ND	50
JAN 28...	<2	<20	ND	150	20	20	<200	4	50
APR 30...	ND	<20	ND	270	90	90	<200	ND	30

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT								
29...	20	--	--	<.5	<1	--	80	ND
JAN								
28...	20	50	<.5	<.5	<1	<1	<20	ND
APR								
30...	20	30	<.5	<.5	<1	<1	<20	ND

384248105105201 - CRIPPLE CREEK BELOW CRIPPLE CREEK

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
MAY										
01...	0910	.60	275	6.9	.0	12.2	6.0	110	--	--
30...	0900	.40	320	7.5	5.0	9.2	6.0	1700	--	--
JUN										
25...	0945	.30	319	7.8	12.5	9.1	6.8	--	--	--
JUL										
31...	0840	.30	340	--	11.0	7.2	5.6	K 910	110	86
AUG										
28...	1000	.65	300	7.4	11.0	7.2	6.3	900	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	BICAR- BONATE (MG/L AS HCO3)	ALKA- LINITY FIELD (MG/L AS CACO3)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
MAY										
01...	--	--	--	--	1.4	.070	2.1	2.20	3.6	.480
30...	--	--	--	--	2.4	1.60	1.4	3.00	5.4	.630
JUN										
25...	--	--	--	--	--	1.40	.50	1.90	--	.280
JUL										
31...	31	7.4	27		1.2	3.10	12	15.0	16	.840
AUG										
28...	--	--	--	--	2.3	<.010	1.4	1.40	3.7	.550

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
MAY										
01...	5	<20	ND	ND	ND	<100	2	<20	2	4000
30...	2	<20	ND	ND	ND	<100	2	20	2	4300
JUL										
31...	2	<20	ND	ND	ND	ND	ND	<20	<2	2700

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY										
01...	60	<200	ND	1800	330	--	<.5	<1	190	90
30...	210	<200	2	1900	1900	<.5	<.5	<1	460	50
JUL										
31...	150	<200	ND	2000	2200	<.5	<.5	<1	90	<20

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
01...	0845	--	--	--	--	--	--	--	--	--	--
01...	0850	.80	278	7.2	3.0	9.2	11	K 160	--	--	--
04...	0850	--	--	--	--	--	--	--	--	--	--
30...	0845	.75	265	6.6	.0	10.4	6.0	290	72	59	20
NOV											
26...	1000	.50	216	6.3	.0	9.2	2.0	K 1600	--	--	--
DEC											
31...	1130	1.0	167	6.3	1.0	9.4	2.0	760	--	--	--
JAN											
28...	1120	.50	167	6.9	.0	10.0	8.8	K 50	45	22	13
FEB											
25...	1030	1.0	231	7.3	.0	10.0	9.8	K 7	--	--	--
MAR											
25...	1030	2.0	198	6.7	5.0	9.4	22	K 40	--	--	--
APR											
30...	1045	1.0	270	7.3	3.5	9.8	8.4	980	83	67	25
MAY											
28...	0945	.80	242	7.3	11.0	7.9	12	K 580	--	--	--
JUN											
25...	0915	.70	254	7.2	10.5	--	11	2800	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT											
01...	--	--	--	--	--	--	--	--	.52	--	.500
01...	--	17		1.7	1.7	1.7	.450	.07	.00	2.2	.005
04...	--	17		--	--	--	--	--	--	2.2	--
30...	5.4	16		6.4	1.6	1.6	1.50	1.9	3.40	5.0	.530
NOV											
26...	--	13		10	1.3	1.3	1.80	1.7	3.50	4.8	.340
DEC											
31...	--	31		25	.76	.7	1.50	1.3	2.80	3.6	.500
JAN											
28...	3.0	28		5.6	.76	--	1.50	1.3	2.80	3.6	.750
FEB											
25...	--	28		2.2	.81	--	1.80	1.9	3.70	4.5	.700
MAR											
25...	--	34		11	.64	--	1.50	4.6	6.10	6.7	1.90
APR											
30...	5.1	20		1.6	.98	--	1.10	1.7	2.80	3.8	.510
MAY											
28...	--	33		2.6	--	1.5	--	--	2.20	3.7	.780
JUN											
25...	--	15		1.5	2.1	--	1.30	.50	1.80	3.9	1.00

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)
OCT												
30...	4	ND	ND	ND	ND	--	5	2	<20	<2	1600	40
JAN												
28...	<1	<20	ND	ND	ND	0	<100	<2	<20	<2	1200	70
APR												
30...	1	<20	ND	<20	ND	0	<100	4	<20	<2	1800	140

DATE	IRON, FERRIC PLUS FERROUS DIS-SOLVED (UG/L)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT												
30...	40	<200	ND	1400	1300	1400	--	<.5	<1	<1	90	30
JAN												
28...	--	<200	2	610	550	--	<.5	<.5	<1	--	60	20
APR												
30...	--	<200	ND	1200	1100	--	<.5	<.5	<1	--	60	ND

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT 07...	1115	2.0	695	5.9	4.5	9.1	3.0
NOV 03...	1400	1.5	502	5.9	8.0	8.1	6.2
DEC 01...	1145	.80	270	6.8	.0	10.4	2.5
JAN 07...	1115	1.0	240	7.1	.0	10.4	13
FEB 04...	1100	.40	255	6.6	.0	10.4	8.5
APR 12...	1330	.50	355	7.0	11.5	7.7	6.4
MAY 05...	1245	.60	343	7.6	17.5	7.3	9.9
JUN 16...	0945	.30	330	8.3	14.0	9.5	11
JUL 14...	1230	.60	310	7.9	20.5	6.5	13
AUG 25...	1330	.80	370	7.6	21.0	6.5	9.2
SEP 08...	1145	.80	280	7.4	16.5	7.1	9.5

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 07...	20	340	9.1	44	1.6	.920	.310
NOV 03...	260	230	6.5	30	1.4	1.50	.910
DEC 01...	8	110	6.6	121	.99	1.20	.310
JAN 07...	>30000	73	5.6	17	.58	2.40	.530
FEB 04...	140	69	16	19	.52	1.70	.790
APR 12...	440	170	5.9	23	.62	2.10	.340
MAY 05...	K 61	130	8.1	20	.68	1.60	.120
JUN 16...	K 4400	94	10	19	.23	2.30	.600
JUL 14...	K 1900	79	11	182	.33	3.10	.600
AUG 25...	K 120	99	14	29	.90	2.90	.390
SEP 08...	270	73	9.4	40	.87	1.70	.680

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 07...	<20	ND	0	40	3400	<200	12000	<.5	1100
JAN 07...	<20	ND	0	<20	1300	<200	1200	<.5	100
APR 12...	<20	ND	0	<20	1700	<200	2700	<.5	160
JUL 14...	<20	ND	0	20	1300	<200	1400	1.1	30

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT							
19...	1345	.50	217	7.8	14.0	7.7	24
NOV							
16...	1245	.70	192	7.8	2.0	10.0	18
DEC							
19...	1200	.50	208	6.6	.0	9.8	2.0
JAN							
30...	1315	.50	184	6.7	.0	9.8	30
FEB							
22...	1315	1.0	183	6.7	.0	10.4	46
MAR							
29...	1315	1.5	215	6.4	7.0	8.4	10
MAY							
18...	1300	.10	293	6.7	15.0	--	9.9
30...	1400	.20	276	6.6	18.0	--	7.2
JUN							
30...	1230	.20	289	7.0	19.5	6.2	50
JUL							
27...	1330	.30	268	8.0	26.0	5.6	10
AUG							
25...	0815	.05	290	7.5	12.0	--	10
SEP							
29...	0830	.51	220	7.0	6.0	7.8	1.4

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT							
19...	3700	57	6.6	52	1.3	1.40	.940
NOV							
16...	K12000	46	5.4	158	.78	2.40	.870
DEC							
19...	5400	45	6.9	25	1.1	1.90	.450
JAN							
30...	K6700	29	6.3	36	.41	3.20	.870
FEB							
22...	K80	26	9.0	38	.30	3.20	1.70
MAR							
29...	K370	56	7.0	25	.62	1.90	.790
MAY							
18...	K32	78	9.5	114	1.7	.680	.440
30...	420	67	9.6	49	2.3	.460	.640
JUN							
30...	K25000	51	7.0	61	.68	2.50	2.00
JUL							
27...	K220	45	13	17	3.3	.890	.880
AUG							
25...	3900	36	12	33	2.3	1.60	1.50
SEP							
29...	500	31	12	18	2.9	1.50	.760

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT									
19...	<20	ND	0	<20	2600	<200	970	<.1	80
JAN									
30...	ND	<20	0	17	1900	6	640	<.1	50
MAY									
18...	<2	ND	0	7	1600	7	760	<.1	50
JUL									
27...	ND	ND	0	12	2200	9	940	<.1	30

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

384128105122100 - ROOSEVELT TUNNEL BELOW CRIPPLE CREEK

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
MAY										
01...	--	.02	1400	8.0	.5	10.6	.4	<1	--	--
30...	1015	.02	1200	7.9	1.0	10.4	.3	<1	--	--
JUN										
26...	1000	.02	1260	8.0	4.5	9.7	.8	--	--	--
JUL										
31...	0930	--	1250	--	7.5	9.7	.6	<1	650	510
AUG										
28...	1045	--	1300	8.0	7.5	9.4	.2	<1	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
MAY										
01...	--	--	--	--	.02	.020	.00	.02	.04	<.010
30...	--	--	--	--	.01	.020	.19	.21	.22	.010
JUN										
26...	--	--	--	--	.05	.030	.09	.12	.17	.040
JUL										
31...	210	30	164		.03	<.010	.12	.12	.15	.020
AUG										
28...	--	--	--	--	.03	<.010	.12	.12	.15	<.010

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
MAY											
01...	--	1	<20	ND	ND	ND	<100	ND	<20	ND	110
30...	1015	1	<20	ND	ND	ND	<100	ND	<20	ND	160
JUL											
31...	0930	<1	<20	<2	ND	ND	20	ND	<20	ND	90

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY										
01...	<10	<200	ND	70	<10	--	<.5	<1	60	<20
30...	<10	<200	3	<10	<10	<.5	<.5	<1	110	30
JUL										
31...	50	<200	<2	<10	20	<.5	<.5	<1	50	30

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT											
01...	0930	.02	820	8.1	3.0	9.6	.5	--	--	--	--
30...	0940	.02	1100	7.8	3.0	9.9	.1	<1	450	340	140
NOV											
26...	1100	.05	1350	7.7	.0	10.7	.0	<1	--	--	--
DEC											
31...	1230	.01	1450	7.3	2.0	10.2	.0	--	--	--	--

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	BICARBONATE (MG/L AS HCO3)	ALKALINITY FIELD (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT										
01...	--	133		1.7	.02	.030	.16	.19	.21	.070
30...	24	138		3.5	.02	.010	.65	.66	.68	.090
NOV										
26...	--	159		5.1	.01	<.010	.02	.02	.03	<.010
DEC										
31...	--	153		12	.06	.040	.20	.24	.30	.050

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT											
30...	0940	1	<20	ND	8	ND	5	<2	ND	ND	200

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT										
30...	<10	<200	ND	30	20	<.5	<.5	<1	100	20

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

383946105131301 - CARLTON TUNNEL BELOW VICTOR COLORADO

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
MAY										
01...	1145	2.5	2200	7.9	21.5	6.5	.6	5	--	--
30...	1115	2.5	2100	7.7	22.0	6.5	.4	<1	--	--
JUN										
26...	1030	2.0	2381	8.2	23.0	6.9	.8	--	--	--
JUL										
31...	1020	--	2400	--	24.0	6.4	.4	<1	1300	1100
AUG										
28...	1130	--	2300	8.0	23.5	6.3	.2	20	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
MAY										
01...	--	--	--	--	.16	.100	.00	.10	.26	.050
30...	--	--	--	--	.07	.020	.06	.08	.15	.040
JUN										
26...	--	--	--	--	.01	.040	.04	.08	.09	<.010
JUL										
31...	460	28	217		.01	<.010	.06	.06	.07	.030
AUG										
28...	--	--	--	--	.02	.040	.92	.96	.98	.010

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
MAY										
01...	2	<20	ND	ND	<20	<100	ND	20	ND	9200
30...	4	<20	ND	ND	ND	<100	ND	30	ND	2600
JUL										
31...	3	<20	ND	12	ND	40	ND	<20	ND	750

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY										
01...	<10	200	ND	3400	90	--	<.5	<1	250	6
30...	<10	<200	2	470	460	<.5	<.5	<1	180	ND
JUL										
31...	<10	<200	2	500	490	<.5	<.5	<1	40	ND

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
OCT											
01...	1030	2.3	2260	8.1	22.5	6.5	.5	K 6	--	--	--
01...	1100	2.3	2200	8.1	22.0	6.7	.5	--	--	--	--
30...	1015	3.2	2200	7.8	22.0	6.6	.2	<1	--	860	710
NOV											
26...	1140	4.7	2340	7.9	19.0	7.7	<1.1	--	--	--	--
26...	1345	4.7	2280	8.1	21.0	6.8	--	--	--	1200	1100
DEC											
31...	1300	2.5	2280	7.9	18.0	7.3	<1.0	--	<4	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--
30...	300	26	--	--	--	181	--		--	--	--
NOV											
26...	--	--	--	--	--	206	--		--	--	--
26...	450	26	79	1.0	4.7	197	0		1200	15	2.2
DEC											
31...	--	--	--	--	--	206	--		--	--	--

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT											
01...	--	--	--	--	<.10	--	.030	.05	.08	.08	.010
01...	--	--	--	--	.02	--	.050	.02	.07	.09	.030
30...	--	--	--	--	.01	--	.010	.06	.07	.08	<.010
NOV											
26...	--	--	--	--	.06	--	<.010	.05	.05	.11	.010
26...	53	1930	2.62	24.5	--	.06	--	--	--	--	--
DEC											
31...	--	--	--	--	.01	--	.010	.13	.14	.15	.010

DATE	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ANTI-MONY, TOTAL (UG/L AS SB)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
OCT												
01...	--	--	--	2	--	--	--	ND	ND	<20	<20	<100
01...	--	--	--	1	--	--	--	ND	ND	<20	<20	<100
30...	--	--	--	2	--	--	--	<20	ND	12	20	ND
NOV												
26...	.070	1	<1	2	1	<100	<100	<20	ND	20	15	--

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM TOTAL RECOV-ERABLE (UG/L AS LI)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
OCT											
01...	2	ND	ND	1000	20	<200	ND	--	--	540	460
01...	2	20	ND	790	40	<200	ND	--	--	460	380
30...	<2	20	ND	710	<10	<200	ND	--	--	520	380
NOV											
26...	--	<20	ND	640	<10	<200	4	60	50	480	320

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT											
01...	<.5	<.5	--	--	<1	--	--	--	--	80	<20
01...	<.5	<.5	--	--	<1	--	--	--	--	50	<20
30...	<.5	<.5	--	--	<1	--	--	--	--	300	2
NOV											
26...	<.5	<.5	15	16	<1	<1	<20	ND	.1	30	ND

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT								
07...	1215	3.0	--	--	--	--	--	.2
JAN								
07...	1215	4.0	1600	8.1	20.0	24	7.0	<1.0
APR								
12...	1215	3.5	1890	8.2	21.0	17	6.7	.2
JUL								
14...	1130	4.0	2100	7.9	24.5	100	6.7	<1.1

DATE	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT								
07...	<1	--	--	--	--	--	--	--
JAN								
07...	--	18	1400	22	34	.01	.010	.020
APR								
12...	--	<2	1200	26	22	.01	.020	<.010
JUL								
14...	--	2	1200	31	177	.01	.020	.040

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
JAN								
07...	<20	ND	<20	1400	<200	600	<.5	60
APR								
12...	<20	<20	<20	1400	<200	1300	<.5	120
JUL								
14...	<20	15	30	11000	<200	3500	<.5	390

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT 19...	1245	3.0	2200	8.2	22.0	20	7.0	1.0
JAN 30...	1215	3.5	2340	8.1	19.5	3.6	7.2	.4
MAY 18...	1200	3.0	2370	8.2	20.0	8.3	--	.6
JUL 27...	1445	3.0	2150	8.2	23.5	.70	6.6	.2

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 19...	2	1100	25	19	.02	.060	.040
JAN 30...	<1	1300	24	12	.04	.140	.020
MAY 18...	K1	420	62	18	<.10	.040	.080
JUL 27...	<1	1200	22	6	.04	.010	<.010

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 19...	<20	20	<20	840	<200	550	<.1	40
JAN 30...	ND	20	33	750	4	390	<.1	40
MAY 18...	<2	<20	3	1000	4	590	<.1	40
JUL 27...	ND	<20	6	530	9	700	<.1	30

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

383919105123901 - WILSON CREEK AT MOUTH

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)
MAY										
01...	1300	1.2	460	8.5	11.0	8.7	1.1	9	--	--
30...	1200	1.5	505	8.2	15.0	7.8	1.6	60	--	--
JUN										
25...	1100	1.5	446	8.3	16.0	8.2	1.8	--	--	--
JUL										
31...	1100	1.2	480	--	18.5	7.4	1.1	83	170	82
AUG										
28...	1215	.80	570	8.4	19.0	7.1	.6	150	--	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
MAY										
01...	--	--	--	--	.04	.050	.21	.26	.39	.100
30...	--	--	--	--	.21	.010	.71	.72	.93	.170
JUN										
25...	--	--	--	--	.13	.050	.67	.72	.85	.270
JUL										
31...	50	12	112		.10	<.010	.38	.38	.48	.140
AUG										
28...	--	--	--	--	.04	.590	2.4	3.00	3.0	.060

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
MAY										
01...	4	<20	ND	ND	<20	<100	ND	<20	<2	340
30...	6	<20	ND	ND	ND	<100	ND	<20	ND	2100
JUL										
31...	10	<20	ND	12	ND	ND	ND	<20	<2	1500

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY										
01...	<10	<200	ND	50	<10	--	<.5	<1	<20	ND
30...	20	<200	3	70	<10	<.5	<.5	<1	150	ND
JUL										
31...	<10	<200	<2	110	<10	<.5	<.5	<1	40	ND

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT											
01...	1145	.90	590	8.2	12.5	7.9	1.3	K 9	--	--	--
30...	1100	1.0	620	7.9	11.0	8.8	.3	K 6	240	110	69
30...	1130	--	--	--	--	--	.3	K 6	--	--	--
NOV											
26...	1200	.60	650	8.1	5.0	10.2	.7	24	--	--	--
JAN											
28...	1240	.70	630	8.4	9.0	9.7	.4	1	85	220	63
FEB											
25...	0915	.21	428	8.4	3.0	10.4	.3	K 3	--	--	--
MAR											
25...	0915	.39	585	8.0	6.0	8.6	.4	<1	--	--	--
APR											
30...	1215	2.0	470	8.0	4.5	10.3	.6	K 16	140	62	41
MAY											
28...	1100	1.0	487	8.1	14.5	7.8	1.5	K 6	--	--	--
JUN											
25...	1030	1.5	533	8.1	16.0	--	1.2	K 320	--	--	--
28...	1030	1.5	--	--	--	--	1.2	320	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT											
01...	--	146	--		<.10	--	.010	.12	.13	.13	.020
30...	16	154	--		<.10	--	<.010	.13	.13	.13	.020
30...	--	--	--	--	--	--	--	--	--	--	--
NOV											
26...	--	152	--		.03	--	.010	.20	.21	.24	.020
JAN											
28...	14	146	0		.12	.1	.030	.54	.57	.69	.050
FEB											
25...	--	145	0		.27	.2	.010	.21	.22	.49	.020
MAR											
25...	--	130	--		.06	.6	.040	.66	.70	.76	.020
APR											
30...	10	100	--		.11	.1	.010	.30	.31	.42	.100
MAY											
28...	--	124	--		--	.0	--	--	.00	.00	.500
JUN											
25...	--	132	--		<.10	.0	<.010	.00	.00	.00	.260
28...	--	--	--	--	--	--	--	--	--	--	--

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	PHOS- PHORUS, TOTAL IN BOT. MAT. (MG/KG AS P)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)
OCT								
30...	--	--	--	--	--	--	0	--
30...	--	2	ND	ND	ND	ND	--	<100
JAN								
28...	--	<1	<20	ND	ND	ND	0	<100
MAR								
25...	0	--	--	--	--	--	--	--
APR								
30...	--	2	<20	ND	ND	ND	0	<100
JUN								
25...	--	--	--	--	--	--	--	--

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, FERRIC PLUS FERROUS DIS- SOLVED (UG/L)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
OCT									
30...	--	--	--	--	--	--	--	--	--
30...	<2	ND	ND	<10	<10	--	<200	ND	30
JAN									
28...	<2	<20	ND	90	<10	0	<200	ND	<10
MAR									
25...	--	--	--	--	--	--	--	--	--
APR									
30...	ND	<20	ND	410	<10	10	<200	ND	30
JUN									
25...	--	--	--	--	--	--	--	--	--

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT								
30...	--	--	--	--	--	--	--	--
30...	<10	--	--	<.5	<1	--	90	4
JAN								
28...	<10	10	<.5	<.5	<1	<1	ND	ND
MAR								
25...	--	--	--	--	--	--	--	--
APR								
30...	<10	30	<.5	<.5	<1	<1	20	ND
JUN								
25...	--	--	--	--	--	--	--	ND

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT 07...	1245	4.0	455	7.4	6.0	4.4	9.6	.7
NOV 03...	1230	2.5	445	8.1	8.0	.70	10.2	.3
DEC 01...	1300	1.0	530	8.1	.0	1.0	11.1	.4
JAN 07...	1300	1.5	530	8.2	1.5	.80	10.3	.2
FEB 04...	1200	1.0	560	8.1	3.0	.90	10.3	.3
APR 12...	1100	.40	495	8.0	12.0	1.6	8.4	.6
MAY 05...	1115	2.2	420	8.1	12.5	1.5	8.3	.5
JUN 16...	1045	.30	610	8.0	17.0	3.3	8.1	.8
JUL 14...	1015	.70	540	8.2	17.5	8.8	7.0	.4
AUG 25...	1200	1.0	600	8.2	18.0	.80	8.1	.7
SEP 08...	1015	.80	600	8.1	12.5	.70	8.5	.2

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 07...	100	160	14	28	.82	<.010	.020
NOV 03...	K 10	180	15	7	.14	<.010	.010
DEC 01...	K 9	170	21	12	.66	<.010	<.010
JAN 07...	K 1	160	22	1	.49	<.010	.030
FEB 04...	--	170	26	0	.71	<.010	.030
APR 12...	<1	150	18	1	.14	.030	.020
MAY 05...	K 2	110	16	7	.28	<.010	.020
JUN 16...	K 2	140	19	11	.04	.030	.050
JUL 14...	284	140	18	21	.01	<.010	.050
AUG 25...	31	140	16	1	.01	.010	.040
SEP 08...	K 12	150	16	1	.02	<.010	.040

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 07...	<20	ND	0	<20	390	<200	50	<.5	ND
JAN 07...	<20	ND	0	<20	20	<200	<10	<.5	<20
APR 12...	<20	ND	0	20	250	<200	<10	<.5	<20
JUL 14...	<20	ND	0	<20	640	<200	60	<.5	4

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT								
19...	1130	.50	640	8.4	9.0	.50	9.3	1.2
NOV								
16...	1115	.50	615	8.2	5.5	40	10.2	.2
DEC								
19...	1045	.50	675	7.9	.0	.60	11.2	.4
JAN								
30...	1115	.10	709	7.7	.0	.30	10.0	.7
FEB								
22...	1115	.70	750	7.8	.0	.30	11.0	.5
MAR								
29...	1200	1.0	740	7.9	15.0	.40	8.6	.3
MAY								
18...	1100	.30	750	7.3	12.5	.50	--	.5
30...	1200	.30	700	8.1	18.5	.50	--	.8
JUN								
30...	1330	.10	740	8.2	23.0	1.5	6.9	.8

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT							
19...	4	140	18	4	.02	.010	.030
NOV							
16...	K5	170	39	109	1.4	12.0	9.00
DEC							
19...	<1	180	21	8	.73	.840	.020
JAN							
30...	<1	160	17	2	.01	.010	.050
FEB							
22...	<1	200	35	0	.01	.010	.020
MAR							
29...	K1	170	24	3	.02	.030	.020
MAY							
18...	26	330	25	2	.03	.040	.030
30...	25	150	25	46	.02	<.010	.010
JUN							
30...	K16	160	28	19	<.10	<.010	.090

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT									
19...	<20	20	0	<20	<10	<200	4	<.1	20
JAN									
30...	ND	20	0	6	70	2	<10	<.1	<20
MAY									
18...	ND	<20	0	2	80	7	<10	<.1	20

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

07103750 - MONUMENT CREEK AT MONUMENT

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)
APR 30...	0820	5.1	117	8.3	4.0	10.4	.50	10	--	--
MAY 29...	0845	5.7	128	8.0	3.0	10.2	.60	K22	--	--
JUN 24...	1345	7.7	104	8.8	21.0	7.3	1.00	--	--	--
JUL 30...	0920	.60	180	--	19.5	7.5	1.00	35	65	0

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	BICARBONATE (MG/L AS HCO3)	ALKALINITY FIELD (MG/L AS CACO3)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
APR 30...	--	--	--	--	.09	<.01	.10	.10	.18	<.01
MAY 29...	--	--	--	--	.08	<.01	.37	.37	.45	.01
JUN 24...	--	--	--	--	.02	.04	.23	.27	.29	.01
JUL 30...	22	2.5	85	70	.03	<.01	.25	.25	.28	.03

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
APR 30...	<1	<20	ND	ND	ND	<100	ND	<20	ND	210
MAY 29...	1	<20	ND	ND	ND	<100	ND	<20	ND	580
JUL 30...	<1	<20	ND	8	ND	ND	ND	<20	ND	260

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
APR 30...	<10	<200	2	20	<10	<.5	<.5	<1	20	2
MAY 29...	20	<200	2	<10	<10	<.5	<.5	<1	20	<20
JUL 30...	<10	<200	ND	20	<10	<.5	<.5	<1	ND	ND

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
DEC 30...	1430	.37	195	7.8	.0	11.0	.75	K 31	--	--	--
JAN 27...	0840	.21	220	7.8	.0	11.4	.50	K 18	83	14	26
FEB 25...	1515	1.1	100	8.4	3.5	10.6	.80	K 2	--	--	--
MAR 25...	1430	.99	162	8.9	15.0	8.7	2.40	K 2	--	--	--
APR 29...	1430	9.3	112	7.8	7.0	9.6	.50	K 140	42	5	13
MAY 27...	1300	3.6	110	8.0	19.5	7.4	.90	K 15	--	--	--
JUN 24...	1545	.86	153	8.4	25.0	6.4	1.40	K 12	--	--	--

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY FIELD (MG/L AS CACO3)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
DEC 30...	--	77	--	63	.22	--	.01	.30	.31	.53	.03
JAN 27...	4.5	85	--	70	.48	.4	.01	.13	.14	.62	<.01
FEB 25...	--	68	0	56	.34	.0	.02	.12	.14	.48	.01
MAR 25...	2.2	82	--	67	.07	.7	.02	.12	.14	.21	.01
APR 29...	2.2	45	--	37	.15	.1	.02	.36	.38	.53	.01
MAY 27...	--	43	--	35	--	.0	--	--	.26	.35	.01
JUN 24...	--	70	--	57	<.10	--	.01	.16	.17	.17	.01

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)
JAN 27...	<1	<20	ND	ND	ND	0	<100	<2	ND	ND	<10	<10
MAR 25...	--	--	--	--	--	--	--	--	--	--	300	--
APR 29...	<1	<20	ND	ND	ND	0	<100	ND	<20	ND	300	20

DATE	IRON, FERRIC PLUS FERROUS DISSOLVED (UG/L)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
JAN 27...	0	<200	2	<10	<10	10	<.5	<.5	1	1	<20	ND
MAR 25...	20	<200	ND	--	<10	1	--	<.5	--	--	--	--
APR 29...	--	<200	ND	<10	<10	--	<.5	<.5	<1	<1	<20	<20

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
OCT 06...	1810	.40	183	7.4	3.0	.70	9.6	.40
NOV 04...	1245	2.7	130	8.0	10.5	1.1	9.4	.10
30...	1530	--	130	8.5	.0	1.1	10.8	.40
JAN 06...	1500	2.9	140	8.6	.0	.80	12.2	.40
FEB 03...	1445	.13	185	7.9	.0	1.3	11.9	.20

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 06...	K 12	11	6.6	12	.07	<.01	<.01
NOV 04...	K 2	11	2.6	6	.02	<.01	.01
30...	58	11	2.9	8	.10	<.01	.02
JAN 06...	K 7	14	3.5	2	.19	<.01	.01
FEB 03...	<1	14	4.5	0	.20	<.01	.01

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT 06...	<20	ND	0	<20	60	<200	<10	<.5	ND
JAN 06...	<20	ND	0	<20	370	<200	<10	<.5	<20

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

384620104461501 - FOUNTAIN CREEK AT STRATMOOR

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS) (00061)	SPECIFIC CONDUCTANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPERATURE (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)
APR											
29...	1045	53	750	8.5	9.0	8.8	10	<20	--	--	--
MAY											
28...	1000	34	750	7.2	12.0	8.1	30	>1200	>2000	--	--
JUN											
24...	1030	63	450	7.8	16.0	6.8	21	--	--	--	--
JUL											
29...	1045	32	810	--	23.0	4.5	51	5000	--	210	56
AUG											
27...	1000	27	850	7.5	17.5	6.5	24	K 20000	--	--	--
SEP											
29...	1110	32	940	7.7	16.5	6.3	43	K 20	--	--	--

DATE	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	BICARBONATE (MG/L AS HCO3) (00440)	ALKALINITY FIELD (MG/L AS CACO3) (00410)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)
APR										
29...	--	--	--	--	1.1	14.0	2.0	16.0	17	5.80
MAY										
28...	--	--	--	--	2.2	7.10	3.9	11.0	13	3.80
JUN										
24...	--	--	--	--	2.5	2.10	.70	2.80	5.3	1.30
JUL										
29...	58	17	194		1.5	6.80	2.7	9.50	11	3.00
AUG										
27...	--	--	--	--	2.1	5.00	2.5	7.50	9.6	2.30
SEP										
29...	--	--	216		1.7	.550	.05	.60	2.3	6.10

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)
APR										
29...	8	<20	ND	50	30	<100	ND	60	4	7400
MAY										
28...	3	<20	ND	50	<20	<100	ND	40	6	1900
JUL										
29...	5	<20	ND	30	20	ND	ND	40	6	3400

DATE	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	SELENIUM, TOTAL (UG/L AS SE) (01147)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
APR										
29...	50	<200	3	300	140	<.5	<.5	2	170	20
MAY										
28...	90	<200	2	310	210	<.5	<.5	3	130	20
JUL										
29...	80	<200	ND	570	400	<.5	<.5	2	100	20

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS) (00061)	SPE-CIFIC CON-DUCT-ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	HARD-NESS (MG/L AS CACO3) (00900)	HARD-NESS, NONCAR-BONATE (MG/L CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT 28...	1130	57	820	--	14.0	7.4	16	K 100	180	21	47
NOV 25...	1000	28	910	7.3	1.5	7.3	10	<10	--	--	--
DEC 30...	1100	8.7	1020	7.8	5.0	10.0	5.0	170	--	--	--
JAN 26...	1130	15	1050	7.9	.0	11.0	26	K 10	280	70	75
FEB 24...	1100	41	900	7.2	10.0	8.4	15	<4	--	--	--
MAR 26...	1215	27	1010	8.2	14.0	7.7	24	<4	--	--	--
APR 28...	1200	49	790	7.9	12.0	7.7	20	K 140	180	24	46
MAY 26...	1200	44	737	7.8	19.0	6.3	40	180	--	--	--
JUN 24...	0930	20	900	7.8	16.5	7.4	25	K 7600	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	BICAR-BONATE (MG/L AS HCO3) (00440)	CAR-BONATE (MG/L AS CO3) (00445)	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)
OCT 28...	16	194	0		.79	13.0	8.0	21.0	22	5.60
NOV 25...	--	199	0		1.9	8.10	6.9	15.0	17	2.10
DEC 30...	--	251	0		2.4	5.70	--	4.90	7.3	2.10
JAN 26...	22	254	--		2.5	6.60	7.4	14.0	16	3.70
FEB 24...	--	196	--		1.3	--	--	16.0	17	5.90
MAR 26...	--	230	--		1.3	12.0	12	24.0	25	5.20
APR 28...	15	186	--		.98	.040	18	18.0	19	4.50
MAY 26...	--	188	--		.92	--	--	14.0	15	4.00
JUN 24...	--	189	--		2.2	6.20	.20	6.40	8.6	1.90

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR) (01032)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
OCT 28...	4	<20	<2	50	24	--	<100	2	20	4	1400	40
JAN 26...	4	<20	ND	30	ND	0	<100	<2	30	6	1400	50
APR 28...	6	<20	<2	50	30	0	<100	2	20	4	2400	70

DATE	IRON, FERRIC PLUS FERROUS DIS-SOLVED (UG/L) (01048)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G) (01053)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT 28...	--	ND	ND	210	150	--	--	<.5	2	--	110	40
JAN 26...	50	<200	2	220	200	220	<.5	<.5	3	3	50	20
APR 28...	70	<200	3	190	110	190	<.5	<.5	3	3	60	30

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)
OCT								
06...	1345	91	775	7.5	14.5	7.0	5.0	--
NOV								
04...	0900	33	560	6.9	8.0	8.8	1.0	--
30...	1140	43	800	8.0	8.0	8.8	--	--
JAN								
06...	1030	12	940	8.0	2.0	10.4	5.5	--
FEB								
03...	1100	53	841	7.8	9.0	8.8	5.0	--
MAR								
10...	1030	48	720	7.9	8.0	8.8	5.0	--
APR								
07...	1000	43	660	7.8	13.0	8.5	5.1	--
MAY								
03...	1400	107	390	7.8	19.5	6.4	11	--
JUN								
15...	1030	32	780	7.6	23.0	6.7	--	--
JUL								
07...	0700	11	780	7.6	16.5	9.1	15	--
AUG								
24...	1015	84	700	7.3	21.0	6.3	29	1200
SEP								
07...	1045	40	880	7.5	20.5	7.8	--	--

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT							
06...	K 12	180	36	101	1.8	9.60	2.50
NOV							
04...	K 2	180	28	38	4.5	2.20	2.10
30...	K 10	180	42	126	1.7	13.0	7.10
JAN							
06...	K 16	240	42	17	2.6	7.40	2.70
FEB							
03...	<2	180	48	96	1.1	14.0	6.20
MAR							
10...	K 4	190	41	97	1.6	10.0	3.90
APR							
07...	<20	170	27	481	1.6	7.80	2.50
MAY							
03...	<5	85	16	193	1.1	3.20	.980
JUN							
15...	K 100	180	28	276	1.5	7.00	12.0
JUL							
07...	K 390	210	36	24	2.4	5.60	1.90
AUG							
24...	K 1200	140	25	504	6.2	4.70	3.30
SEP							
07...	200	210	38	147	2.9	9.20	10.0

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
OCT									
06...	<20	40	0	20	2900	<200	250	<.5	40
JAN									
06...	<20	20	1	<20	430	<200	210	<.5	40
APR									
07...	<20	40	0	<20	12000	<200	320	<.5	90
JUL									
07...	<20	<20	1	<20	520	<200	320	6.0	20

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
OCT 18...	1120	52	850	7.7	18.0	7.3	--
NOV 15...	1115	72	662	7.7	13.0	8.2	27
DEC 15...	1050	53	800	7.7	9.0	9.3	16
JAN 27...	1115	18	860	7.7	4.5	10.7	28
FEB 21...	1200	20	946	7.6	9.5	9.5	17
MAR 28...	1445	46	760	7.8	18.0	8.3	40
APR 26...	1315	43	800	7.7	20.0	6.8	38
JUN 02...	1030	56	740	7.6	12.5	7.8	7.0
28...	1415	45	775	7.5	27.0	6.6	30
JUL 26...	1200	41	750	7.8	26.0	6.3	37
AUG 24...	1500	74	900	7.6	23.5	--	25
SEP 28...	1345	47	788	7.5	22.5	5.4	25

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
OCT 18...	2100	170	39	122	1.1	14.0	7.80
NOV 15...	920	160	21	1	.05	.010	<.010
DEC 15...	K20	180	36	152	1.5	9.10	6.30
JAN 27...	K24	170	23	52	2.8	5.20	3.00
FEB 21...	K4	220	47	36	2.8	7.60	3.20
MAR 28...	K48	160	38	280	1.2	1.90	6.30
APR 26...	K400	170	38	2730	9.2	2.80	1.40
JUN 02...	K13	170	31	123	3.9	1.50	3.40
28...	K760	170	39	104	5.0	.950	6.30
JUL 26...	110	190	41	98	2.7	3.00	5.20
AUG 24...	K300	170	40	58	5.0	6.50	7.90
SEP 28...	K56	180	40	33	5.9	4.00	6.80

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
OCT 18...	<20	80	0	50	1600	<200	230	.2	120
JAN 27...	<2	20	1	18	880	8	160	<.1	50
APR 26...	<2	80	3	130	57000	48	870	<.1	140
JUL 26...	8	40	0	24	1600	38	300	<.1	80

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

385853105025000 - FOUNTAIN CREEK NEAR WOODLAND PARK

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
APR 30...	1600	.05	520	8.3	8.0	9.2	22	0	--	--	--
MAY 29...	1600	.08	520	7.8	8.0	8.5	4.6	<20	--	--	--
JUN 24...	1715	.05	497	7.8	17.0	6.7	16	--	--	--	--
JUL 30...	1445	.05	460	--	19.0	7.0	42	<4	51	0	15
AUG 27...	1610	.08	540	7.3	17.0	7.1	10	<1	--	--	--
SEP 30...	1415	.20	520	7.4	10.0	7.4	15	<100	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	BICAR-BONATE (MG/L AS HCO3)	ALKA-LINITY FIELD (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
APR 30...	--	--	--	--	.40	.050	29	29.0	29	12.0
MAY 29...	--	--	--	--	.01	6.80	11	18.0	18	14.0
JUN 24...	--	--	--	--	.19	6.70	16	23.0	23	15.0
JUL 30...	3.2	129		--	.27	5.30	8.7	14.0	14	18.0
AUG 27...	--	--	--	--	.22	<.010	4.7	4.70	4.9	18.0
SEP 30...	--	148		9.4	.14	.840	9.2	10.0	10	19.0

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
APR 30...	1600	3	<20	ND	ND	ND	<100	ND	20	14	350
MAY 29...	1600	4	<20	ND	ND	ND	<100	<2	<20	20	480
JUL 30...	1445	2	<20	ND	ND	ND	20	ND	<20	9	390

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR 30...	40	<200	ND	70	2	--	<.5	<1	40	30
MAY 29...	150	<200	2	30	<10	<.5	<.5	<1	130	40
JUL 30...	50	<200	ND	90	<10	<.5	<.5	<1	60	20

PREVIOUSLY UNPUBLISHED ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)
OCT 29...	1445	.10	580	8.0	6.0	9.4	17	--	84	0	26
NOV 25...	1600	.15	580	7.3	.5	10.8	22	<1	--	--	--
DEC 30...	1700	.09	720	6.8	.0	9.8	12	<1	--	--	--

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY FIELD (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 29...	4.7	157	0		2.5	.40	2.80	16	19.0	19	17.0
NOV 25...	--	173	--		14	.35	5.00	16	21.0	21	13.0
DEC 30...	--	226	--		57	.23	16.0	9.0	25.0	25	18.0

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)
OCT 29...	1445	2	ND	ND	ND	ND	ND	ND	<20	12

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 29...	650	130	ND	ND	170	<10	<.5	<1	150	40

K BASED ON NON-IDEAL COLONY COUNT.

REVISED WATER-QUALITY DATA, 1979 WATER YEAR

384248105105201 - CRIPPLE CREEK BELOW CRIPPLE CREEK

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
NOV							
02...	1200	.25	198	7.1	9.5	6.8	>7.9
28...	1230	1.1	200	7.2	.5	9.2	19
JAN							
02...	1215	.68	177	6.7	.5	10.4	6.0
31...	1445	.99	212	6.4	1.0	--	7.6
FEB							
23...	1045	2.4	202	7.0	.5	9.4	9.0
MAY							
02...	1215	3.6	418	7.3	6.0	8.9	<1.0
31...	1300	.49	460	6.9	13.5	7.0	49
JUL							
12...	1145	E.30	420	9.3	20.0	8.8	7.5
AUG							
07...	1310	.93	440	7.4	21.0	6.9	2.9
23...	1155	.80	485	7.1	17.5	6.4	4.0
SEP							
12...	1440	.74	400	7.0	17.5	6.4	8.0

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV							
02...	100	35	8.1	18	1.5	1.30	.480
28...	--	41	8.4	16	1.5	2.30	<.010
JAN							
02...	1500	32	5.3	5	.60	1.80	.360
31...	2700	18	5.5	10	.72	2.70	.650
FEB							
23...	1400	45	7.9	0	.99	1.80	.250
MAY							
02...	1800	--	--	29	1.5	.880	.090
31...	260000	--	--	1390	.66	1.00	3.70
JUL							
12...	4800	--	--	3	.29	1.70	.370
AUG							
07...	K8	--	--	7	1.3	.220	.070
23...	380	--	--	14	.74	1.50	.120
SEP							
12...	480	--	--	30	1.2	.860	.010

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)
NOV									
02...	ND	ND	0	7	1200	ND	960	<.1	30
JAN									
31...	ND	<20	0	13	1500	6	690	<.1	40
MAY									
02...	3	ND	0	41	2300	16	4300	.4	400
AUG									
07...	ND	ND	0	3	660	ND	2200	<.1	40

REVISED WATER-QUALITY DATA, 1979 WATER YEAR

383946105131301 - CARLTON TUNNEL BELOW VICTOR COLORADO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
NOV 02...	1045	--	2320	8.2	22.0	1.7	6.9	.8
MAR 07...	1415	--	2020	--	--	--	--	--
MAY 02...	1330	1.3	2300	7.9	20.0	--	6.7	--
AUG 07...	1415	1.0	2020	7.8	23.0	--	6.4	.2

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV 02...	K2	1300	35	10	.05	.010	<.010
MAR 07...	K8	--	--	--	--	--	--
MAY 02...	--	--	--	6	.03	.090	<.010
AUG 07...	K8	--	--	19	.03	.070	.010

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
NOV 02...	ND	20	<2	1200	ND	960	<.1	40
MAY 02...	ND	ND	2	1200	20	750	.4	60
AUG 07...	ND	ND	2	900	3	790	.2	60

384205105084201 - WILSON CR BL VICTOR COLO WWTF

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
MAY 02...	1040	1.9	570	7.5	5.0	8.8	<1.0	60	736	1.0	.470
31...	1530	5.9	480	6.8	11.5	7.4	23	2000	292	.47	.450
JUL 12...	1300	E.30	472	7.6	20.0	--	24	120000	25	.64	2.30
AUG 07...	1205	1.1	464	6.8	18.5	2.9	7.5	15000	16	.54	2.90
23...	1053	.49	495	7.2	13.0	5.8	5.0	4300	22	.94	1.40
SEP 12...	1225	.43	550	6.9	15.5	5.4	6.0	500	--	1.1	1.50

REVISED WATER-QUALITY DATA, 1979 WATER YEAR

384205105084201 - WILSON CREEK BELOW VICTOR WASTEWATER-TREATMENT FACILITY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	PHOSPHORUS, TOTAL (MG/L AS P)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAY										
02...	1.20	ND	<20	0	30	24000	130	3200	.8	460
31...	.710	--	--	--	--	--	--	--	--	--
JUL										
12...	.820	--	--	--	--	--	--	--	--	--
AUG										
07...	.850	ND	<20	0	16	700	6	290	.2	30
23...	.300	--	--	--	--	--	--	--	--	--
SEP										
12...	--	--	--	--	--	--	--	--	--	--

383919105123901 - WILSON CREEK AT MOUTH

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
MAY							
02...	1415	7.3	625	7.9	8.0	9.2	.2
31...	1100	2.8	600	7.7	10.0	8.6	1.2
JUL							
12...	1430	E.30	638	8.6	20.0	--	.5
AUG							
07...	1510	.81	655	7.9	25.0	6.6	.1
23...	1305	.33	695	8.2	18.5	7.5	3.2
SEP							
12...	1543	.21	700	8.1	16.5	7.3	4.8

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
MAY						
02...	32	--	0	.19	.030	.020
31...	150	210	9	--	--	--
JUL						
12...	K1	--	0	.01	.080	.010
AUG						
07...	K8	--	4	.01	.010	.020
23...	40	--	4	.07	.030	.070
SEP						
12...	20	--	18	.02	.130	.030

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
MAY									
02...	ND	ND	0	12	70	24	<10	.3	30
AUG									
07...	ND	ND	0	<2	60	2	20	.2	<20

REVISED WATER-QUALITY DATA, 1979 WATER YEAR

384620104461501 - FOUNTAIN CREEK AT STRATMOOR COLO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV								
01...	1300	63	880	7.3	14.0	6.8	57	400
29...	1045	21	960	7.5	6.5	8.9	32	400
DEC								
28...	1300	8.2	1080	7.3	8.0	9.0	15	K20
JAN								
31...	1200	--	1100	7.5	3.5	--	34	K20
FEB								
28...	1005	55	675	8.8	10.5	8.5	34	K50
MAR								
28...	1455	91	843	7.5	14.5	7.2	17	K10
MAY								
01...	1735	107	590	7.6	13.5	8.0	5.5	230
30...	1015	143	480	7.4	10.0	8.6	21	K1000
JUL								
09...	1400	75	740	7.5	26.0	5.0	18	K20
AUG								
03...	1145	60	950	7.4	25.0	5.5	14	420
22...	1350	60	800	7.3	23.0	5.5	18	500
SEP								
17...	1623	42	760	7.9	23.0	5.4	16	K240

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)
NOV							
01...	--	160	54	180	3.6	2.10	7.50
29...	--	240	44	61	4.8	2.30	<.010
DEC							
28...	--	290	44	61	3.0	.990	1.50
JAN							
31...	--	280	45	112	3.9	4.80	3.40
FEB							
28...	--	170	41	109	4.2	5.50	3.40
MAR							
28...	--	--	--	--	--	--	--
MAY							
01...	--	--	--	198	2.5	3.50	2.30
30...	K3000	--	--	968	1.2	.670	1.00
JUL							
09...	--	--	--	148	6.4	1.80	1.30
AUG							
03...	--	--	--	168	3.0	1.90	3.00
22...	--	--	--	216	6.1	2.90	4.60
SEP							
17...	--	--	--	42	5.6	2.60	.080

REVISED WATER-QUALITY DATA, 1979 WATER YEAR

384620104461501 - FOUNTAIN CREEK AT STRATMOOR COLO

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, HEXAVALENT, DIS. (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
NOV 01...	--	--	--	4	140	0	78	19000	99	1000	--	.4
JAN 31...	--	--	--	2	30	0	20	1100	10	240	--	<.1
MAY 01...	--	--	--	<2	<20	0	19	4800	21	260	--	.3
AUG 03...	<100	5	<10	<2	<20	0	9	3500	14	450	290	<.1

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	GROSS ALPHA, DISSOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)
NOV 01...	--	--	--	340	--	--	--	--	--	--	--	--
JAN 31...	--	--	--	80	--	--	--	--	--	--	--	--
MAY 01...	--	--	--	100	--	--	--	--	--	--	--	--
AUG 03...	17	4	0	60	<6.8	29	<10	43	6.9	17	6.4	16

DATE	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)
AUG 03...	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00

DATE	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)
AUG 03...	.00	.00	.01	.03	.00	.00	.00	.00	0	.00

E ESTIMATED.

K BASED ON NON-IDEAL COLONY COUNT.

06614800 - MICHIGAN RIVER NEAR CAMERON PASS, CO. (LAT 40 29 46 LONG 105 51 52)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			MAY , 1980		
18...	7.0	50	22...	.5	--
DEC			JUN		
06...	.0	--	17...	2.0	--
JAN , 1980			JUL		
17...	.0	--	17...	10.0	32
FEB			AUG		
27...	.5	49	20...	12.0	35
APR					
10...	.0	45			

06616000 - NORTH FORK MICHIGAN RIVER NEAR GOULD, CO. (LAT 40 32 58 LONG 106 01 14)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			MAY , 1980		
15...	5.5	120	20...	5.0	80
DEC			JUN		
05...	.0	180	18...	12.0	70
JAN , 1980			JUL		
16...	.0	170	17...	14.0	100
FEB			AUG		
27...	.5	150	19...	17.5	110
APR					
15...	2.5	160			

06657500 - LARAMIE RIVER NEAR GLENDEVEY, CO. (LAT 40 48 02 LONG 105 52 40)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			MAY , 1980		
17...	8.0	95	22...	8.5	55
DEC			JUN		
06...	--	140	04...	11.0	35
JAN , 1980			17...	7.0	30
16...	2.0	120	JUL		
FEB			17...	20.0	85
26...	.0	100	AUG		
APR			19...	17.5	110
11...	.5	100			

06693980 - MIDDLE FORK SOUTH PLATTE RIVER AB FAIRPLAY, CO. (LAT 39 14 12 LONG 106 01 43)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			APR , 1980		
02...	6.5	260	29...	7.0	260
NOV			MAY		
07...	1.5	250	29...	5.0	210
DEC			JUN		
03...	.0	140	17...	5.0	180
JAN , 1980			JUL		
23...	.0	250	25...	10.0	140
FEB			AUG		
26...	1.0	275	20...	10.0	100
MAR			SEP		
26...	.0	260	16...	8.0	200
APR					
16...	1.5	260			

06694100 - MIDDLE FORK SOUTH PLATTE RIVER NR HARTSEL, CO. (LAT 39 01 20 LONG 105 45 29)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			MAY , 1980		
04...	10.0	370	27...	7.0	450
NOV			JUN		
06...	1.0	310	17...	5.0	250
DEC			JUL		
04...	.0	400	23...	17.0	260
JAN , 1980			AUG		
24...	.0	120	20...	10.0	210
MAR			SEP		
27...	.0	145	17...	9.0	160
APR					
17...	1.0	260			
30...	4.0	540			

06694400 - SOUTH FORK SOUTH PLATTE RIVER AB FAIRPLAY, CO. (LAT 39 04 57 LONG 106 02 52)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			APR , 1980		
03...	11.0	300	16...	3.0	360
NOV			MAY		
07...	4.3	300	27...	10.0	275
DEC			JUN		
04...	2.0	320	17...	5.0	310
JAN , 1980			JUL		
24...	1.5	140	25...	8.0	140
FEB			AUG		
27...	1.0	85	20...	10.0	180
MAR			SEP		
26...	1.0	140	17...	12.0	200

06694700 - FOURMILE CREEK NEAR FAIRPLAY, CO. (LAT 39 11 04 LONG 106 03 47)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			MAY , 1980		
03...	10.0	230	29...	2.0	120
NOV			JUN		
07...	2.0	230	18...	9.5	80
DEC			JUL		
03...	.0	240	25...	9.0	120
FEB , 1980			AUG		
27...	.0	65	19...	10.0	<50
MAR			SEP		
27...	.0	265	16...	9.0	85
APR					
17...	1.0	280			
30...	3.0	265			

06696980 - TARRYALL CREEK AT UPPER STATION, NEAR COMO, CO. (LAT 39 20 22 LONG 105 54 37)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			MAY , 1980		
02...	8.5	170	28...	5.0	200
NOV			JUN		
05...	11.0	90	17...	5.0	150
DEC			JUL		
03...	.0	160	22...	10.0	150
FEB , 1980			25...	8.5	125
25...	.0	165	AUG		
MAR			19...	10.0	60
26...	.0	185	SEP		
APR			16...	9.0	80
15...	1.0	180			

06697450 - MICHIGAN CREEK ABOVE JEFFERSON, CO. (LAT 39 21 32 LONG 105 50 27)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			APR , 1980		
02...	12.5	90	29...	5.0	100
NOV			MAY		
05...	.5	90	28...	5.0	180
DEC			JUN		
03...	.0	100	09...	5.0	275
JAN , 1980			17...	5.0	--
22...	.0	125	JUL		
FEB			22...	9.0	60
25...	.0	150	AUG		
MAR			19...	11.5	180
25...	.0	80	SEP		
APR			16...	10.0	60
15...	1.0	180			

06698000 - JEFFERSON CREEK NEAR JEFFERSON, CO. (LAT 39 23 24 LONG 105 48 38)

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)
OCT , 1979			APR , 1980		
03...	6.0	<50	30...	2.0	50
NOV			MAY		
05...	.0	60	28...	5.0	200
DEC			JUN		
03...	.0	60	09...	5.0	185
JAN , 1980			17...	5.0	210
22...	.0	180	JUL		
FEB			22...	6.0	<50
25...	.0	<50	AUG		
MAR			19...	12.0	<50
25...	.0	<50	SEP		
APR			16...	9.0	<50
15...	1.0	70			

06709500 - PLUM CREEK NEAR LOUVIERS, CO. (LAT 39 29 04 LONG 105 00 07)

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)
OCT , 1979			APR , 1980		
04...	15.0	180	03...	12.0	--
16...	17.0	150	JUN		
NOV			03...	22.0	160
05...	9.0	210	JUL		
09...	9.0	180	14...	28.0	280
DEC			AUG		
14...	1.0	145	26...	20.0	175
JAN , 1980			SEP		
08...	.0	350	11...	20.0	120
MAR					
05...	1.0	--			
20...	5.0	185			

06712000 - CHERRY CREEK NEAR FRANKTOWN, CO. (LAT 39 21 21 LONG 104 45 46)

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)
OCT , 1979			MAY , 1980		
04...	14.0	165	05...	12.5	330
16...	15.0	140	JUN		
NOV			03...	13.5	255
05...	9.5	180	27...	19.0	180
DEC			JUL		
14...	1.0	100	14...	26.0	215
JAN , 1980			AUG		
11...	1.0	210	26...	20.0	200
FEB			SEP		
05...	1.0	220	11...	11.0	120
MAR					
03...	5.0	--			

06723400 - SOUTH ST. VRAIN CREEK ABOVE LYONS, CO. (LAT 40 12 40 LONG 105 16 47)

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)
OCT , 1979			APR , 1980		
22...	8.0	70	08...	10.0	105
NOV			MAY		
27...	.0	75	06...	8.5	80
DEC			JUN		
18...	.0	75	11...	10.0	34
JAN , 1980			JUL		
22...	.0	85	14...	16.0	33
FEB			AUG		
21...	.0	90	13...	16.0	43
MAR			SEP		
10...	8.0	100	16...	15.0	50

06729300 - SOUTH BOULDER CREEK AT PINECLIFFE, CO. (LAT 39 55 54 LONG 105 25 21)

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)
OCT , 1979			APR , 1980		
05...	6.0	47	30...	2.5	90
NOV			MAY		
15...	.0	80	28...	8.0	55
DEC			JUN		
07...	.0	75	27...	8.0	30
JAN , 1980			JUL		
18...	.0	80	31...	15.0	42
FEB			AUG		
27...	.0	80	28...	11.5	55
MAR					
31...	.0	90			

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
06746110 - JOE WRIGHT CREEK BELOW JOE WRIGHT RESERVOIR, CO. (LAT 40 33 43 LONG 105 52 09)					
OCT , 1979			MAY , 1980		
18...	2.0	56	20...	.0	--
DEC			JUN		
06...	.0	70	17...	9.0	34
JAN , 1980			JUL		
17...	.0	--	17...	8.0	38
FEB			AUG		
26...	.0	60	20...	6.5	35
APR					
11...	.0	40			
06826500 - SOUTH FORK REPUBLICAN RIVER NEAR HALE, CO. (LAT 39 37 26 LONG 102 09 47)					
OCT , 1979			JUN , 1980		
23...	12.0	550	11...	16.5	465
JAN , 1980			JUL		
15...	3.0	--	15...	20.0	--
APR			AUG		
08...	8.0	520	20...	19.0	--
MAY			SEP		
06...	13.5	570	17...	18.0	550
07081200 - ARKANSAS RIVER NEAR LEADVILLE, CO. (LAT 39 15 26 LONG 106 20 35)					
OCT , 1979			APR , 1980		
16...	10.0	320	03...	.0	374
DEC			MAY		
12...	.0	255	14...	5.5	--
JAN , 1980			SEP		
15...	.0	--	17...	7.5	265
FEB					
19...	2.0	300			
07087200 - ARKANSAS RIVER AT BUENA VISTA, CO. (LAT 38 50 57 LONG 106 07 27)					
OCT , 1979			JAN , 1980		
10...	9.0	--	03...	.0	--
24...	7.5	--	16...	.5	--
NOV			AUG		
08...	5.0	--	28...	14.5	--
29...	.0	--			
DEC					
13...	.0	--			
07089000 - COTTONWOOD C BL HOT SPRINGS, NR BUENA VISTA, CO. (LAT 38 48 46 LONG 106 13 18)					
OCT , 1979			MAY , 1980		
15...	10.0	145	15...	6.5	--
NOV			JUN		
13...	5.0	125	12...	8.5	85
DEC			JUL		
12...	3.0	120	23...	7.5	112
JAN , 1980			AUG		
14...	5.0	118	26...	14.0	165
FEB			SEP		
21...	4.0	118	18...	9.5	120
APR					
03...	5.0	148			
07091200 - ARKANSAS RIVER NEAR NATHROP, CO. (LAT 38 39 08 LONG 106 03 02)					
OCT , 1979			MAY , 1980		
18...	11.0	205	20...	9.0	130
NOV			JUN		
15...	3.0	120	10...	8.5	110
DEC			13...	8.5	--
13...	.0	135	17...	9.0	120
JAN , 1980			JUL		
17...	.0	180	23...	12.0	155
FEB			AUG		
28...	2.5	150	20...	15.5	160
APR			SEP		
03...	5.5	128	16...	15.0	135
MAY					
16...	9.0	125			

DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	DATE	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)
07094500 - ARKANSAS RIVER AT PARKDALE, CO. (LAT 38 29 14 LONG 105 22 23)					
OCT , 1979			JUN , 1980		
19...	12.0	375	11...	17.0	185
DEC			12...	14.0	140
13...	.0	240	JUL		
JAN , 1980			23...	19.0	250
17...	3.5	280	SEP		
FEB			16...	18.5	230
28...	8.0	240			
APR					
04...	8.0	200			
07096500 - FOURMILE CREEK NEAR CANON CITY, CO. (LAT 38 26 11 LONG 105 11 27)					
OCT , 1979			FEB , 1980		
19...	15.0	1175	29...	7.0	1400
NOV			APR		
16...	10.0	775	07...	13.5	650
DEC			MAY		
14...	10.5	1275	01...	7.5	--
19...	9.0	1100			
JAN , 1980					
18...	12.0	1250			
07099100 - BEAVER CREEK NEAR PORTLAND, CO. (LAT 38 22 27 LONG 104 57 49)					
OCT , 1979			APR , 1980		
22...	15.0	2600	07...	8.0	--
NOV			MAY		
16...	9.0	1650	01...	6.0	320
DEC			AUG		
14...	5.5	2200	04...	26.0	2275
JAN , 1980			08...	25.5	2175
21...	6.5	2200			
FEB					
29...	5.5	2200			
07099233 - TELLER RESERVOIR NEAR STONE CITY, CO. (LAT 38 26 34 LONG 104 49 31)					
OCT , 1979			MAY , 1980		
11...	12.5	1850	05...	19.0	950
NOV			19...	12.0	342
15...	5.0	1930	JUN		
DEC			04...	20.0	330
12...	1.5	2200	17...	23.0	385
FEB , 1980			JUL		
28...	9.5	2200	18...	25.0	395
MAR			AUG		
21...	13.0	2600	14...	24.0	415
APR					
16...	19.0	2900			
07099235 - TURKEY CREEK NR STONE CITY, CO (LAT 38 26 27 LONG 104 49 31)					
OCT , 1979			MAR , 1980		
11...	16.0	1000	21...	14.0	1575
NOV			MAY		
15...	10.5	1590	19...	14.0	390
DEC			JUN		
12...	6.0	1610	17...	17.5	435
JAN , 1980			JUL		
28...	3.0	1590	18...	19.5	440
FEB			AUG		
28...	8.5	1600	20...	20.0	470

SPECIFIC CONDUCTANCE AND TEMPERATURE DATA AT SELECTED SITES

07103700 - FOUNTAIN CREEK NEAR COLORADO SPRINGS, CO. (LAT 38 51 17 LONG 104 52 39)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
DEC , 1979			AUG , 1980		
12...	.0	465	06...	17.0	275
APR , 1980			28...	12.0	285
15...	9.0	358	SEP		
JUN			24...	11.0	209
12...	8.0	146			
JUL					
09...	16.0	200			

07103747 - MONUMENT CREEK AT PALMER LAKE, CO. (LAT 39 06 07 LONG 104 53 27)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			MAY , 1980		
10...	12.5	215	13...	6.0	80
NOV			JUN		
07...	7.0	238	11...	11.0	125
DEC			11...	11.0	125
11...	.0	185	JUL		
11...	.0	185	09...	19.5	205
JAN , 1980			09...	19.5	205
10...	.5	162	AUG		
MAR			07...	16.0	240
11...	8.0	155	27...	14.0	230
APR			27...	14.0	230
14...	9.0	119	SEP		
14...	9.0	119	25...	10.5	242
MAY			25...	10.5	242
05...	6.5	55			
09...	6.0	75			

07103800 - WEST MONUMENT CREEK AT AIR FORCE ACADEMY, CO. (LAT 38 58 14 LONG 104 54 08)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
NOV , 1979			JUN , 1980		
15...	5.0	105	11...	11.5	87
DEC			JUL		
11...	.0	95	09...	12.5	99
JAN , 1980			AUG		
10...	.0	90	07...	14.5	110
MAR			27...	13.0	108
11...	1.0	90	SEP		
APR			25...	8.5	112
14...	2.0	80			
MAY					
13...	5.0	70			

07103950 - KETTLE CREEK NEAR BLACK FOREST, CO. (LAT 39 00 14 LONG 104 44 21)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			MAY , 1980		
10...	14.0	280	05...	15.5	223
NOV			09...	14.0	122
15...	3.0	265	JUN		
DEC			11...	22.0	215
11...	.0	240	JUL		
JAN , 1980			08...	17.0	322
10...	5.0	250	AUG		
FEB			07...	22.5	232
27...	4.0	250	27...	21.0	385
MAR			SEP		
11...	5.0	222	25...	9.5	272
APR					
11...	4.0	198			
25...	6.5	225			

07104000 - MONUMENT CREEK AT PIKEVIEW, CO. (LAT 38 55 04 LONG 104 49 05)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1979			MAY , 1980		
09...	8.0	485	13...	11.0	122
NOV			JUN		
14...	4.0	436	10...	19.5	225
DEC			11...	22.0	224
11...	.0	384	11...	22.0	198
11...	.0	345	JUL		
JAN , 1980			09...	27.5	338
10...	.5	410	09...	27.5	338
MAR			AUG		
11...	8.0	400	07...	28.0	404
APR			07...	28.0	360
10...	13.0	335	19...	22.0	350
15...	11.0	295	27...	20.5	290
15...	11.0	295	27...	20.5	290
25...	9.0	205	SEP		
29...	9.0	158	24...	22.0	460
MAY			24...	22.0	460
01...	5.0	295			
08...	6.0	180			

07104500 - TEMPLETON GAP FLOODWAY AT COLORADO SPRINGS, CO. (LAT 38 53 17 LONG 104 49 01)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
MAR , 1980		
11...	3.5	295

07105500 - FOUNTAIN CREEK AT COLORADO SPRINGS, CO. (LAT 38 48 59 LONG 104 49 20)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
DEC , 1979			JUL , 1980		
12...	3.0	835	09...	23.0	434
APR , 1980			AUG		
15...	17.0	490	07...	28.5	700
MAY			28...	17.0	545
08...	9.0	260	SEP		
JUN			24...	14.0	575
12...	14.0	272			

07105800 - FOUNTAIN CREEK AT SECURITY, CO. (LAT 38 43 46 LONG 104 44 00)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1979			APR , 1980		
11...	17.0	925	29...	14.5	500
NOV			MAY		
07...	11.0	885	01...	8.0	400
14...	8.0	990	02...	9.5	425
DEC			JUN		
14...	1.0	1090	10...	14.5	360
JAN , 1980			30...	25.5	415
09...	5.0	925	JUL		
FEB			08...	24.5	415
27...	12.0	925	AUG		
MAR			06...	26.0	690
12...	9.0	810	26...	21.5	760
APR			SEP		
10...	11.0	800	24...	14.5	500
24...	4.0	390			
25...	6.0	560			

07105900 - JIMMY CAMP CREEK AT FOUNTAIN, CO. (LAT 38 41 04 LONG 104 41 17)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1979			MAY , 1980		
11...	12.5	3000	05...	13.0	2450
NOV			09...	17.0	2200
14...	9.5	3500	JUN		
DEC			09...	18.0	2900
13...	6.0	3550	JUL		
JAN , 1980			08...	22.5	650
09...	6.0	3000	AUG		
FEB			06...	21.0	3010
20...	9.0	--	15...	20.0	930
MAR			26...	21.5	2750
12...	9.0	1200	SEP		
APR			23...	21.0	3000
11...	6.0	3000			

07105926 - WOMACK DITCH NEAR FORT CARSON, CO. (LAT 38 40 52 LONG 104 51 20)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1979			APR , 1980		
10...	12.0	119	18...	6.0	100
NOV			MAY		
14...	5.0	110	16...	4.5	--
DEC			JUN		
14...	5.0	119	20...	13.0	115
JAN , 1980			JUL		
30...	2.5	120	16...	20.5	122
FEB			AUG		
20...	3.0	118	13...	20.0	130
MAR					
19...	5.0	78			

07106500 - FOUNTAIN CREEK AT PUEBLO, CO. (LAT 38 18 27 LONG 104 36 09)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1979			APR , 1980		
02...	18.0	2990	28...	21.0	1550
NOV			MAY		
08...	7.0	1900	28...	13.0	755
DEC			30...	18.0	750
04...	7.0	1630	JUN		
JAN , 1980			11...	23.0	970
09...	1.0	1670	27...	24.0	1510
FEB			JUL		
13...	11.0	1600	11...	21.0	1610
MAR			AUG		
18...	12.0	1840	12...	30.0	1710
APR			19...	27.0	--
03...	14.0	1300	SEP		
18...	23.0	1680	16...	20.0	1780
24...	3.5	730			

07107900 - GREENHORN CREEK NEAR RYE, CO. (LAT 37 55 14 LONG 104 57 21)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1979			APR , 1980		
01...	9.0	92	14...	3.5	73
DEC			JUN		
04...	.5	81	17...	11.0	55

07108050 - GREENHORN CREEK NEAR COLORADO CITY, CO. (LAT 37 57 06 LONG 104 47 42)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1979			APR , 1980		
01...	17.5	1460	14...	15.5	1510
DEC			JUN		
04...	7.0	1600	17...	19.5	445

07108900 - ST. CHARLES RIVER AT VINELAND, CO. (LAT 38 14 44 LONG 104 29 09)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1979			MAY , 1980		
30...	5.5	2300	05...	12.0	370
30...	5.5	2300	13...	11.0	--
DEC			14...	13.0	870
11...	4.0	3400	22...	18.0	520
JAN , 1980			JUN		
08...	1.0	2990	10...	22.0	610
FEB			16...	22.0	1290
13...	3.0	2800	20...	17.0	1420
MAR			JUL		
17...	4.0	1040	10...	29.0	3000
APR			AUG		
21...	15.0	2800	12...	21.0	3000
25...	4.0	510	18...	26.0	3000
29...	15.0	440	SEP		
MAY			17...	18.0	2950
01...	6.0	560	22...	15.5	1030
01...	7.0	520	23...	12.0	1030
02...	10.0	400			

07109500 - ARKANSAS RIVER NEAR AVONDALE, CO. (LAT 38 14 53 LONG 104 23 55)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979		
01...	21.0	645
NOV		
06...	11.5	950
DEC		
03...	10.5	1160
11...	6.0	1380
JAN , 1980		
08...	5.0	1180
FEB		
13...	8.5	960
MAR		
17...	8.5	760
APR		
15...	15.5	925
21...	19.5	880
25...	9.0	600
MAY , 1980		
01...	8.0	650
30...	14.5	570
JUN		
17...	19.5	355
AUG		
01...	24.0	450
12...	22.0	455
15...	20.0	670
SEP		
04...	20.0	790
11...	22.0	840
22...	18.0	--
23...	16.0	--
24...	17.0	--
25...	16.0	--

07119500 - APISHAPA RIVER NEAR FOWLER, CO. (LAT 38 05 28 LONG 103 58 52)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979		
30...	6.0	2150
DEC		
10...	9.5	3500
JAN , 1980		
23...	6.0	3000
FEB		
27...	16.0	2900
APR		
01...	2.5	1120
MAY , 1980		
06...	16.0	760
JUN		
09...	22.0	920
JUL		
09...	24.0	1110
AUG		
13...	25.5	1500
SEP		
18...	21.5	2300

07121500 - TIMPAS CREEK AT MOUTH NEAR SWINK, CO. (LAT 38 00 10 LONG 103 39 18)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
NOV , 1979		
05...	8.5	1700
DEC		
07...	6.5	2380
JAN , 1980		
22...	9.0	3400
FEB		
26...	13.5	2200
MAR		
31...	8.0	1600
MAY		
07...	15.0	2100
JUN , 1980		
10...	18.5	1300
JUL		
09...	29.0	1600
AUG		
14...	22.0	1780
SEP		
19...	17.0	1580
23...	17.0	--

07122400 - CROOKED ARROYO NEAR SWINK, CO. (LAT 37 58 56 LONG 103 35 52)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
NOV , 1979		
05...	7.0	1700
DEC		
07...	9.0	3400
JAN , 1980		
22...	9.0	3100
FEB		
26...	13.0	3200
MAR		
31...	7.0	1510
MAY , 1980		
06...	19.0	3100
JUN		
10...	16.0	1370
JUL		
09...	26.0	1500
AUG		
14...	20.0	1520
SEP		
19...	18.0	1500

07124000 - ARKANSAS RIVER AT LAS ANIMAS, CO. (LAT 38 04 51 LONG 103 13 09)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
NOV , 1979		
01...	7.0	2300
DEC		
06...	8.0	3800
JAN , 1980		
14...	2.5	2050
FEB		
05...	8.0	2600
MAR		
05...	4.5	2600
APR		
04...	15.0	2250
30...	15.0	1250
MAY		
28...	17.0	800
JUN , 1980		
17...	22.0	705
JUL		
01...	28.0	--
05...	33.0	2250
31...	23.0	2800
AUG		
13...	31.0	2250
SEP		
04...	19.0	2600
17...	19.0	1600
24...	14.0	2450
26...	17.0	2100
27...	16.0	--

07124300 - LONG CANYON CREEK NEAR MADRID, CO. (LAT 37 06 53 LONG 104 36 17)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
OCT , 1979			APR , 1980		
24...	7.0	--	23...	14.5	570
NOV			MAY		
28...	6.0	588	29...	13.0	510
JAN , 1980			JUL		
02...	5.5	595	10...	23.5	545
FEB			AUG		
06...	8.0	578	06...	27.0	545
MAR			SEP		
20...	13.0	565	04...	19.0	530

07128500 - PURGATOIRE RIVER NEAR LAS ANIMAS, CO. (LAT 38 02 02 LONG 103 12 00)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
NOV , 1979			MAY , 1980		
01...	6.0	3400	28...	23.0	2100
DEC			JUN		
06...	4.0	3900	17...	26.0	1650
JAN , 1980			JUL		
04...	2.0	4800	02...	30.0	--
FEB			15...	27.0	3000
04...	4.5	4200	31...	27.0	3400
MAR			AUG		
04...	5.5	4200	13...	22.0	3250
APR			SEP		
07...	11.5	3400	03...	28.0	--
29...	18.0	2600	16...	22.0	2450
MAY					
13...	14.0	1375			

07133000 - ARKANSAS RIVER AT LAMAR, CO. (LAT 38 06 24 LONG 102 37 04)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
NOV , 1979			MAY , 1980		
01...	10.0	5400	29...	18.5	--
DEC			JUL		
06...	1.5	5900	03...	26.0	--
JAN , 1980			18...	25.5	1275
03...	20.0	5800	AUG		
FEB			01...	23.5	1250
12...	3.5	6200	12...	27.5	1780
MAR			SEP		
06...	8.0	5500	03...	19.5	2650
APR			19...	17.0	2550
03...	15.0	5700			
MAY					
01...	11.5	3000			
15...	12.0	3100			

07134100 - BIG SANDY CREEK NEAR LAMAR, CO. (LAT 38 06 51 LONG 102 29 00)

DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)	DATE	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (UMHOS)
NOV , 1979			MAY , 1980		
02...	25.0	4900	01...	12.0	3700
DEC			29...	17.5	--
05...	5.5	5000	JUL		
JAN , 1980			17...	28.5	3350
02...	.5	5100	AUG		
FEB			12...	26.5	5000
12...	5.5	5200	SEP		
MAR			18...	24.5	4300
06...	3.0	4800			
APR					
03...	6.0	3700			

07137500 - ARKANSAS R NR COOLIDGE, KS (LAT 38 01 34 LONG 102 00 41)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			APR , 1980		
01...	25.0	4150	25...	--	2090
24...	17.0	4300	28...	18.5	--
NOV			MAY		
05...	9.0	4250	07...	--	4050
27...	7.0	4900	21...	20.5	3700
DEC			JUN		
27...	3.0	4300	04...	28.5	4700
JAN , 1980			11...	25.0	1950
24...	3.0	4600	12...	26.0	1860
FEB			26...	22.0	1600
13...	4.0	5100	JUL		
25...	7.0	4400	18...	23.0	1540
MAR			AUG		
03...	5.5	4400	12...	22.0	2080
18...	12.0	3200	18...	24.0	3010
APR			25...	23.5	3200
04...	8.5	--	SEP		
17...	16.0	4200	08...	28.0	4000
23...	14.5	3300	16...	15.0	3600
24...	11.5	2600			

08216500 - WILLOW CREEK AT CREEDE, CO. (LAT 37 51 22 LONG 106 55 37)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979			APR , 1980		
03...	14.0	110	23...	4.5	160
NOV			MAY		
09...	2.0	120	21...	7.0	180
DEC			JUN		
04...	1.5	160	17...	9.0	50
JAN , 1980			JUL		
09...	.0	--	25...	14.0	70
FEB			AUG		
13...	4.5	285	27...	11.0	80
MAR					
19...	2.5	165			

08217500 - RIO GRANDE AT WAGONWHEEL GAP, CO. (LAT 37 46 01 LONG 106 49 51)

DATE	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)
OCT , 1979		
03...	13.5	100
NOV		
09...	4.0	110
DEC		
04...	.0	120
JAN , 1980		
09...	.0	100
FEB		
13...	.0	160
MAR		
19...	.0	110
APR		
23...	6.0	100
MAY		
21...	6.0	95
JUN		
17...	6.5	53
JUL		
01...	10.5	--
25...	14.0	60
AUG		
27...	10.0	97

06695000 - S PLATTE R AB 11-MILE CANYON RE, NR HARTSEL, CO. (LAT 38 58 03 LONG 105 34 51)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		MAY , 1980	
08...	14.5	12...	8.0
22...	4.5	26...	12.0
NOV		JUN	
05...	1.0	09...	16.0
19...	.5	23...	17.0
DEC		JUL	
03...	.5	21...	18.0
17...	.5	AUG	
JAN , 1980		04...	16.5
28...	.5	18...	16.0
MAR		SEP	
10...	.5	02...	15.0
31...	1.5	15...	16.5
APR		29...	15.5
21...	9.0		

06696000 - SOUTH PLATTE RIVER NEAR LAKE GEORGE, CO. (LAT 38 54 19 LONG 105 28 22)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		MAY , 1980	
08...	13.0	12...	5.5
22...	10.5	26...	8.0
NOV		JUN	
05...	7.0	09...	12.0
19...	4.5	23...	15.5
DEC		JUL	
03...	2.0	08...	16.5
17...	3.0	21...	15.5
JAN , 1980		AUG	
07...	4.5	04...	14.0
28...	3.5	18...	14.0
FEB		SEP	
19...	3.0	02...	14.0
MAR		15...	14.5
31...	4.0	29...	14.0
APR			
21...	6.0		

06700500 - GOOSE CREEK ABOVE CHEESMAN LAKE, CO. (LAT 39 12 32 LONG 105 18 11)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		MAY , 1980	
08...	8.0	06...	5.0
22...	1.0	22...	9.0
NOV		JUN	
05...	.5	03...	10.0
19...	.5	17...	13.0
DEC		JUL	
03...	.5	03...	14.0
17...	.5	15...	14.0
JAN , 1980		28...	16.0
07...	.5	AUG	
28...	.5	12...	16.0
FEB		27...	13.5
19...	.5	SEP	
MAR		09...	14.0
10...	2.0	25...	9.0
31...	1.5		
APR			
21...	5.0		

06701500 - SOUTH PLATTE RIVER BELOW CHEESMAN LAKE, CO. (LAT 39 12 33 LONG 105 16 02)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		MAY , 1980	
08...	10.0	06...	11.0
22...	11.0	22...	12.5
NOV		JUN	
05...	10.0	03...	12.0
19...	9.0	17...	16.5
DEC		23...	18.5
03...	7.0	JUL	
17...	5.5	03...	19.5
JAN , 1980		15...	18.0
07...	4.5	28...	6.0
28...	3.0	AUG	
FEB		12...	6.5
19...	3.0	27...	9.0
MAR		SEP	
10...	4.0	09...	6.0
31...	4.0	25...	6.0
APR			
21...	5.0		

06706000 - NF SOUTH PLATTE R BELOW GENEVA C, AT GRANT, CO. (LAT 39 27 26 LONG 105 39 29)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		MAY , 1980	
09...	6.5	26...	3.0
23...	5.5	JUN	
NOV		10...	10.0
06...	.5	24...	11.5
20...	4.0	JUL	
DEC		22...	12.0
04...	4.0	AUG	
18...	4.0	05...	11.0
JAN , 1980		19...	8.0
08...	3.0	SEP	
29...	3.5	03...	8.0
MAR		16...	7.5
11...	4.0	30...	11.0
APR			
01...	1.5		
22...	7.0		

06707000 - NF SOUTH PLATTE RIVER AT SOUTH PLATTE, CO. (LAT 39 24 32 LONG 105 10 31)

OCT , 1979		JUN , 1980	
10...	4.0	03...	12.5
23...	3.0	18...	11.0
FEB , 1980		JUL	
06...	.5	02...	13.5
26...	1.0	15...	19.5
MAR		28...	20.0
11...	2.0	AUG	
25...	3.5	12...	16.5
APR		27...	13.0
11...	5.0	SEP	
MAY		10...	12.0
06...	10.5	25...	9.0
23...	11.0		

06707500 - SOUTH PLATTE RIVER AT SOUTH PLATTE, CO. (LAT 39 24 33 LONG 105 10 10)

OCT , 1979		JUN , 1980	
10...	7.0	03...	12.0
23...	3.5	18...	11.0
FEB , 1980		JUL	
06...	.5	02...	15.0
26...	2.0	15...	17.0
MAR		20...	18.0
11...	2.0	AUG	
25...	4.5	12...	16.0
MAY		27...	14.0
06...	10.5	SEP	
22...	3.5	25...	11.5

06711500 - BEAR CREEK AT MOUTH, AT SHERIDAN, CO. (LAT 39 39 08 LONG 105 01 57)

OCT , 1979		MAY , 1980	
03...	14.0	02...	9.0
18...	11.5	16...	9.5
NOV		28...	13.5
01...	4.0	JUN	
DEC		02...	14.0
14...	1.5	09...	17.5
28...	2.0	23...	16.5
JAN , 1980		JUL	
22...	1.0	07...	26.0
FEB		09...	27.0
07...	3.0	10...	24.0
21...	8.0	21...	22.0
MAR		AUG	
07...	3.0	05...	24.0
25...	10.0	20...	23.0
APR		SEP	
09...	3.5	03...	17.5
29...	10.0	12...	20.5

06714000 - SOUTH PLATTE RIVER AT DENVER, CO. (LAT 39 45 35 LONG 105 00 10)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT . 1979		MAY . 1980	
11...	20.0	15...	10.5
24...	14.0	28...	16.5
MAR . 1980		JUN	
20...	11.5	10...	15.0
27...	11.0	26...	19.0
APR		JUL	
01...	6.0	08...	24.5
07...	9.5	23...	24.0
08...	11.5	AUG	
15...	14.5	06...	23.5
22...	14.5	19...	21.0
29...	13.0	SEP	
MAY		04...	24.5
01...	9.5		

06716500 - CLEAR CREEK NEAR LAWSON, CO. (LAT 39 45 57 LONG 105 37 32)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT . 1979		APR . 1980	
03...	7.5	09...	3.5
16...	7.0	MAY	
31...	10.0	02...	9.0
NOV		14...	8.5
12...	1.0	27...	8.5
DEC		JUN	
13...	1.0	12...	5.5
27...	1.0	24...	10.0
JAN . 1980		JUL	
10...	1.0	07...	9.5
22...	.5	22...	15.0
FEB		AUG	
07...	1.0	05...	11.5
21...	3.0	20...	11.0
MAR		SEP	
07...	1.0	05...	12.0
25...	1.5	16...	11.0

06719505 - CLEAR CREEK AT GOLDEN, CO. (LAT 39 45 11 LONG 105 14 05)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT . 1979		APR . 1980	
03...	12.0	28...	11.5
16...	8.5	MAY	
31...	1.0	14...	9.0
NOV		27...	12.0
15...	1.0	JUN	
DEC		12...	9.5
13...	1.0	24...	11.5
27...	1.5	JUL	
JAN . 1980		07...	14.0
10...	1.5	22...	16.0
22...	.5	AUG	
FEB		05...	15.0
07...	.5	20...	14.0
MAR		SEP	
07...	2.0	05...	17.5
25...	4.0	16...	12.0
APR			
09...	4.0		

06720000 - CLEAR CREEK AT MOUTH, NEAR DERBY, CO. (LAT 39 49 42 LONG 104 57 30)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT . 1979		JUN . 1980	
11...	15.0	25...	16.5
24...	11.0	JUL	
MAR . 1980		08...	21.0
20...	13.0	23...	25.0
APR		AUG	
07...	10.5	06...	23.0
MAY		19...	23.0
01...	8.0	SEP	
15...	10.0	04...	24.0
28...	10.5	15...	19.0
JUN		29...	16.0
10...	12.5		

TEMPERATURE DATA AT SELECTED SITES

06720500 - SOUTH PLATTE RIVER AT HENDERSON, CO. (LAT 39 55 19 LONG 104 52 00)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
OCT , 1979		JUN , 1980	
11...	17.0	25...	18.5
24...	14.0	JUL	
MAR , 1980		08...	21.5
20...	11.5	23...	22.0
APR		AUG	
07...	10.0	06...	21.5
MAY		19...	21.0
01...	10.5	SEP	
15...	11.5	04...	20.5
28...	16.5	15...	18.0
JUN		29...	17.0
11...	17.5		

06725500 - MIDDLE BOULDER CREEK AT NEDERLAND, CO. (LAT 39 57 42 LONG 105 30 14)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
OCT , 1979		JUN , 1980	
01...	14.0	17...	5.0
17...	6.5	JUL	
31...	.5	01...	12.0
MAR , 1980		15...	12.0
12...	2.0	28...	10.0
APR		AUG	
03...	3.5	12...	13.5
MAY		26...	12.0
06...	7.0	SEP	
23...	6.5	08...	12.0
JUN		23...	8.0
03...	6.5		

06727000 - BOULDER CREEK NEAR ORODELL, CO. (LAT 40 00 23 LONG 105 19 49)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
OCT , 1979		JUL , 1980	
01...	15.0	01...	12.5
17...	8.0	15...	13.0
31...	.5	28...	13.0
APR , 1980		AUG	
03...	1.5	12...	14.0
16...	8.0	26...	14.0
MAY		SEP	
06...	8.5	08...	15.0
21...	12.0	23...	9.0
JUN			
04...	9.0		

06729500 - SOUTH BOULDER CREEK NEAR ELDORADO SPRINGS, CO. (LAT 39 55 52 LONG 105 17 43)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
OCT , 1979		JUL , 1980	
02...	14.5	02...	11.0
18...	10.5	16...	14.0
MAR , 1980		29...	10.5
13...	2.0	AUG	
APR		13...	13.0
02...	5.0	27...	13.0
15...	8.0	SEP	
MAY		08...	14.5
07...	8.0	24...	11.0
23...	10.0		
JUN			
04...	8.0		

06733000 - BIG THOMPSON RIVER AT ESTES PARK, CO. (LAT 40 22 42 LONG 105 30 48)

DATE	TEMPER- ATURE (DEG C)	DATE	TEMPER- ATURE (DEG C)
MAR , 1980		JUN , 1980	
05...	.5	18...	8.0
12...	.0	JUL	
19...	2.0	16...	5.0
26...	.0	AUG	
APR		06...	13.0
02...	.5	SEP	
10...	3.0	03...	12.0
23...	6.0	17...	9.0
MAY			
07...	5.5		
21...	8.5		

06735500 - BIG THOMPSON RIVER NEAR ESTES PARK, CO. (LAT 40 22 35 LONG 105 29 06)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
MAR , 1980		JUN , 1980	
05...	3.5	18...	9.0
19...	2.0	JUL	
APR		02...	11.0
02...	3.0	16...	5.0
23...	7.0	AUG	
MAY		06...	6.0
07...	8.0	SEP	
21...	8.0	03...	14.0
JUN		17...	13.0
04...	9.0		

06738000 - BIG THOMPSON R AT MOUTH OF CANYON, NR DRAKE, CO. (LAT 40 25 18 LONG 105 13 34)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
APR , 1980		AUG , 1980	
22...	7.0	06...	16.0
25...	7.0	20...	16.0
JUL		SEP	
07...	18.0	03...	17.0
17...	17.0	17...	14.0
21...	17.0		
21...	17.0		
25...	16.0		

06760000 - SOUTH PLATTE RIVER AT BALZAC, CO. (LAT 40 24 24 LONG 103 27 58)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
MAR , 1980		JUN , 1980	
19...	9.0	23...	22.0
26...	7.0	JUL	
APR		08...	26.0
18...	13.0	22...	27.0
28...	15.0	AUG	
MAY		14...	22.0
04...	14.0	SEP	
16...	14.0	03...	24.0
30...	17.0	15...	23.0
JUN			
09...	20.0		

07084500 - LAKE CREEK ABOVE TWIN LAKES RESERVOIR, CO. (LAT 39 03 47 LONG 106 24 26)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		JAN , 1980	
11...	6.0	03...	.0
24...	5.0	16...	.0
NOV		AUG	
08...	1.5	27...	11.0
29...	.0		
DEC			
13...	.0		

07086500 - CLEAR CREEK ABOVE CLEAR CREEK RESERVOIR, CO. (LAT 39 01 05 LONG 106 16 38)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		JAN , 1980	
10...	7.5	03...	.0
24...	4.0	16...	.0
NOV		FEB	
08...	4.0	05...	1.0
29...	.0	AUG	
DEC		28...	12.0
13...	.0		

07091500 - ARKANSAS RIVER AT SALIDA, CO. (LAT 38 32 45 LONG 106 00 36)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		JAN , 1980	
11...	12.0	04...	.0
25...	7.0	17...	1.5
NOV		FEB	
09...	4.0	06...	5.0
30...	.0		
DEC			
14...	.0		

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)

07093700 - ARKANSAS RIVER NEAR WELLSVILLE, CO. (LAT 38 30 10 LONG 105 56 21)

OCT , 1979		JAN , 1980	
11...	6.5	04...	.0
25...	7.5	17...	1.5
NOV		FEB	
09...	6.0	06...	.5
30...	.0		
DEC			
14...	.0		

07117000 - ARKANSAS RIVER NEAR NEPESTA, CO. (LAT 38 11 03 LONG 104 10 22)

OCT , 1979		JUN , 1980	
01...	19.0	17...	20.0
DEC		SEP	
03...	6.5	22...	16.5
APR , 1980		24...	22.5
15...	16.0	25...	16.0

08214500 - NORTH CLEAR CREEK BL CONTINENTAL RESERVOIR, CO. (LAT 37 53 18 LONG 107 12 10)

APR , 1980		JUL , 1980	
26...	5.0	20...	14.5
MAY		AUG	
07...	4.0	01...	15.0
19...	7.0	15...	14.5
JUN		29...	14.0
04...	9.0	SEP	
16...	10.0	11...	13.0
30...	11.0	25...	11.5
JUL			
17...	14.5		

08218500 - GOOSE CREEK AT WAGONWHEEL GAP, CO. (LAT 37 45 07 LONG 106 49 46)

OCT , 1979		MAY , 1980	
04...	8.0	07...	9.0
16...	13.0	19...	12.0
30...	5.0	JUN	
NOV		04...	11.0
13...	.0	17...	7.0
29...	.0	30...	9.5
DEC		JUL	
18...	.0	15...	15.0
JAN , 1980		30...	16.0
09...	.0	AUG	
FEB		14...	13.0
22...	1.0	26...	18.0
MAR		SEP	
10...	2.0	11...	9.0
24...	2.0	25...	16.0
APR			
07...	1.0		
24...	.0		

08219500 - SOUTH FORK RIO GRANDE AT SOUTH FORK, CO. (LAT 37 39 25 LONG 106 38 55)

OCT , 1979		MAY , 1980	
04...	8.0	08...	3.0
16...	11.0	21...	6.0
30...	5.0	JUN	
NOV		05...	5.0
13...	.0	17...	7.5
29...	.0	30...	14.0
DEC		JUL	
18...	.0	15...	14.5
JAN , 1980		30...	17.0
09...	.0	AUG	
FEB		14...	15.0
22...	.0	26...	15.0
MAR		SEP	
10...	1.0	11...	12.0
24...	1.5	25...	13.0
APR			
08...	1.5		
24...	.0		

08220000 - RIO GRANDE NEAR DEL NORTE, CO. (LAT 37 41 22 LONG 106 27 38)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		MAY , 1980	
01...	9.0	01...	9.0
NOV		09...	6.0
01...	3.0	21...	7.0
21...	.0	27...	5.0
DEC		JUN	
03...	.0	01...	7.0
19...	.0	10...	8.0
JAN , 1980		20...	7.5
02...	.0	JUL	
10...	.0	01...	13.0
22...	.0	09...	13.0
FEB		21...	14.0
01...	.0	AUG	
11...	.0	01...	15.5
22...	.0	11...	14.0
MAR		22...	17.0
03...	2.0	SEP	
11...	.0	01...	11.5
21...	1.5	10...	12.5
APR		19...	15.5
01...	4.0		
10...	5.0		
21...	6.0		

08220500 - PINOS CREEK NEAR DEL NORTE, CO. (LAT 37 35 30 LONG 106 26 58)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		MAY , 1980	
04...	9.0	08...	5.0
16...	7.0	21...	11.5
30...	.0	JUN	
NOV		04...	11.0
13...	.0	17...	11.0
29...	.0	30...	8.5
DEC		JUL	
18...	.0	15...	10.0
JAN , 1980		30...	11.5
09...	.0	AUG	
FEB		14...	14.0
22...	.0	26...	10.5
MAR		SEP	
10...	1.0	11...	12.0
24...	1.0	26...	7.0
APR			
08...	1.0		
21...	7.0		

08221500 - RIO GRANDE NEAR MONTE VISTA, CO. (LAT 37 36 34 LONG 106 08 54)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		MAR , 1980	
12...	15.0	31...	3.0
23...	6.0	APR	
NOV		14...	11.0
07...	6.0	28...	13.0
19...	.0	JUL	
DEC		07...	15.0
13...	.0	AUG	
JAN , 1980		05...	19.0
07...	.0	SEP	
FEB		04...	21.0
19...	.0	15...	15.5
MAR		29...	11.0
05...	.0		
19...	3.0		

08223000 - RIO GRANDE AT ALAMOSA, CO. (LAT 37 28 53 LONG 105 52 46)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		APR , 1980	
12...	18.0	15...	11.0
23...	11.0	29...	11.0
NOV		MAY	
07...	6.0	15...	8.0
19...	2.0	JUL	
DEC		07...	16.0
13...	.0	21...	25.0
JAN , 1980		SEP	
17...	.0	04...	23.0
FEB		15...	22.5
27...	2.0	29...	20.0
MAR			
19...	4.0		
31...	4.0		

08224500 - KERBER C AT ASHLEY RANCH, NR VILLA GROVE, CO. (LAT 38 14 28 LONG 106 06 57)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1979		APR , 1980	
04...	15.0	03...	.0
17...	9.0	18...	3.0
NOV		30...	6.0
08...	.0	MAY	
28...	.0	14...	4.0
DEC		JUL	
18...	.0	07...	19.0
JAN , 1980		AUG	
08...	.0	06...	20.0
29...	.0	SEP	
FEB		03...	10.0
20...	.0	16...	17.5
MAR			
06...	.0		
17...	.0		

08227000 - SAGUACHE CREEK NEAR SAGUACHE, CO. (LAT 38 09 48 LONG 106 17 24)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1979		APR , 1980	
04...	13.0	03...	3.0
17...	10.0	18...	7.0
NOV		30...	11.0
08...	2.0	MAY	
28...	.0	14...	8.0
DEC		JUL	
18...	.0	07...	17.0
JAN , 1980		AUG	
08...	.0	06...	17.0
29...	.0	19...	19.5
FEB		SEP	
20...	.0	03...	16.0
MAR		16...	16.0
06...	.0	29...	14.0
17...	.0		

08227500 - NORTH CRESTONE CREEK NEAR CRESTONE, CO. (LAT 38 00 49 LONG 105 41 32)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1979		APR , 1980	
04...	8.0	03...	.0
17...	4.5	18...	5.0
NOV		30...	2.0
08...	2.0	MAY	
28...	.0	14...	5.0
DEC		JUL	
18...	.0	07...	11.0
JAN , 1980		AUG	
08...	.0	06...	13.5
29...	.0	SEP	
FEB		03...	9.0
20...	.0	29...	9.0
MAR			
06...	.0		
17...	.0		

08230500 - CARNERO CREEK NEAR LA GARITA, CO. (LAT 37 51 35 LONG 106 19 08)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1979		APR , 1980	
04...	7.0	04...	.0
16...	6.0	15...	11.0
NOV		29...	7.0
08...	.0	MAY	
28...	.0	14...	5.0
DEC		JUL	
18...	.0	07...	16.5
JAN , 1980		AUG	
08...	.0	06...	13.5
29...	.0	19...	21.0
FEB		SEP	
20...	.0	16...	11.0
MAR		29...	10.0
06...	.0		
17...	.0		

TEMPERATURE DATA AT SELECTED SITES

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
08231000 - LA GARITA CREEK NEAR LA GARITA, CO. (LAT 37 48 48 LONG 106 10 04)			
OCT , 1979		APR , 1980	
04...	7.0	04...	.5
16...	6.0	15...	7.0
NOV		29...	4.0
08...	.5	MAY	
28...	.0	14...	4.0
DEC		JUL	
18...	.0	07...	14.0
JAN , 1980		AUG	
08...	.0	06...	12.5
24...	.0	SEP	
FEB		03...	20.5
20...	.0	16...	11.0
MAR		29...	9.5
06...	.0		
17...	.0		
08236000 - ALAMOSA CREEK ABOVE TERRACE RESERVOIR, CO. (LAT 37 22 29 LONG 106 20 03)			
OCT , 1979		APR , 1980	
09...	13.0	03...	.0
24...	6.5	14...	3.0
NOV		28...	5.0
05...	2.0	MAY	
19...	.0	12...	2.0
DEC		JUN	
13...	.0	09...	9.5
JAN , 1980		JUL	
07...	.5	08...	10.0
FEB		SEP	
19...	.0	05...	15.0
MAR		18...	11.0
05...	.0	30...	10.0
19...	.5		
08238000 - LA JARA CREEK AT GALLEGOS RANCH, NR CAPULIN, CO. (LAT 37 12 32 LONG 106 11 16)			
OCT , 1979		APR , 1980	
24...	11.0	28...	10.0
NOV		MAY	
05...	3.0	07...	12.0
19...	.0	12...	2.0
DEC		JUL	
13...	.0	07...	17.0
JAN , 1980		AUG	
07...	.0	07...	17.0
FEB		SEP	
19...	.0	05...	14.0
MAR		18...	10.0
05...	.0	30...	9.0
17...	1.0		
APR			
03...	8.0		
14...	10.0		
08240000 - RIO GRANDE AB MOUTH TRINCHERA C NR LASAUSES, CO. (LAT 37 18 58 LONG 105 44 32)			
OCT , 1979		MAY , 1980	
11...	19.0	06...	13.0
JAN , 1980		JUL	
17...	1.0	01...	21.0
FEB		AUG	
27...	4.0	11...	24.5
MAR		25...	23.0
13...	5.0	SEP	
24...	7.0	09...	14.0
APR		22...	20.0
08...	6.0		
23...	13.0		

TEMPERATURE DATA AT SELECTED SITES

08240500 - TRINCHERA C AB TURNERS RANCH, NR FT GARLAND, CO. (LAT 37 22 29 LONG 105 17 40)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
JAN , 1980		JUN , 1980	
09...	.0	26...	9.0
MAR		JUL	
05...	2.5	09...	11.5
17...	.5	22...	14.5
31...	1.0	AUG	
APR		06...	11.0
14...	6.0	16...	8.0
28...	11.0	SEP	
MAY		05...	14.0
13...	9.0	17...	12.0
JUN		30...	9.5
12...	11.0		

08241500 - SANGRE DE CRISTO CREEK NEAR FORT GARLAND, CO. (LAT 37 25 30 LONG 105 24 52)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
JAN , 1980		JUN , 1980	
09...	1.0	26...	13.0
MAR		JUL	
05...	4.0	09...	17.0
17...	1.0	22...	19.5
31...	4.0	AUG	
APR		06...	12.0
14...	6.0	SEP	
28...	9.0	05...	19.5
MAY		17...	14.0
09...	8.0	30...	12.0
JUN			
12...	12.0		

08242500 - UTE CREEK NEAR FORT GARLAND, CO. (LAT 37 26 50 LONG 105 25 30)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
JAN , 1980		JUL , 1980	
09...	.0	09...	12.0
MAR		22...	12.0
05...	1.5	AUG	
17...	.0	06...	9.0
31...	.5	16...	15.5
APR		SEP	
14...	.5	05...	16.0
28...	8.0	17...	10.0
MAY		30...	9.0
13...	1.0		
JUN			
12...	9.0		

08243500 - TRINCHERA CREEK BELOW SMITH RES. NR BLANCA, CO. (LAT 37 23 10 LONG 105 33 02)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
JAN , 1980		JUN , 1980	
09...	2.0	12...	15.0
MAR		JUL	
05...	5.0	09...	16.0
17...	3.0	22...	16.5
31...	6.0	SEP	
APR		05...	19.0
14...	2.5	17...	14.0
28...	7.0	30...	12.5
MAY			
07...	12.0		
14...	8.0		

08245000 - CONEJOS RIVER BELOW PLATORO RESERVOIR, CO. (LAT 37 21 18 LONG 106 32 37)

DATE	TEMPERATURE (DEG C)	DATE	TEMPERATURE (DEG C)
OCT , 1979		JUL , 1980	
09...	8.0	08...	7.0
24...	7.0	AUG	
NOV		07...	9.0
05...	6.0	SEP	
MAY , 1980		05...	13.0
02...	3.0	18...	13.0
15...	2.0	30...	13.0
30...	2.0		
JUN			
09...	5.0		

08246500 - CONEJOS RIVER NEAR MOGOTE, CO. (LAT 37 03 14 LONG 106 11 13)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1979		APR , 1980	
01...	8.0	01...	5.0
10...	12.0	10...	6.5
19...	7.0	21...	6.0
NOV		23...	8.0
01...	4.0	MAY	
12...	2.0	01...	4.0
20...	.0	12...	5.0
DEC		23...	9.5
03...	.0	JUN	
11...	.0	02...	5.0
19...	.0	11...	7.5
JAN , 1980		23...	9.0
02...	.0	JUL	
10...	.0	01...	10.0
21...	.0	10...	12.5
FEB		21...	15.0
01...	.0	AUG	
11...	.0	01...	11.0
21...	.0	11...	12.0
MAR		SEP	
03...	.5	10...	11.0
11...	1.0	19...	13.0
20...	1.0		

08247500 - SAN ANTONIO RIVER AT ORTIZ, CO. (LAT 36 59 35 LONG 106 02 17)

NOV , 1979		MAR , 1980	
01...	2.0	11...	1.0
12...	1.0	20...	1.5
20...	.0	APR	
DEC		01...	1.0
03...	.0	10...	5.0
11...	.0	21...	3.0
19...	.0	MAY	
JAN , 1980		01...	4.0
02...	.0	09...	2.0
10...	.0	22...	9.0
21...	.0	JUN	
FEB		11...	19.0
01...	.0	23...	21.0
11...	.0	JUL	
21...	.0	01...	21.0
MAR		10...	21.5
03...	1.0		

08248000 - LOS PINOS RIVER NEAR ORTIZ, CO. (LAT 36 58 56 LONG 106 04 23)

OCT , 1979		APR , 1980	
01...	11.0	01...	1.0
10...	14.0	10...	7.0
19...	10.0	21...	7.0
NOV		MAY	
01...	2.0	01...	5.0
12...	3.0	12...	2.0
20...	.0	JUN	
DEC		02...	7.5
03...	.0	11...	12.0
11...	.0	23...	12.0
19...	.0	JUL	
JAN , 1980		01...	15.0
02...	.0	10...	17.0
10...	.0	21...	22.0
21...	.0	AUG	
FEB		01...	19.0
01...	.0	11...	20.0
11...	.0	SEP	
21...	.0	10...	13.0
MAR		19...	16.0
03...	1.0		
11...	1.0		
20...	5.0		

08248500 - SAN ANTONIO RIVER AT MOUTH, NEAR MANASSA, CO. (LAT 37 10 37 LONG 105 52 39)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
JAN , 1980		APR , 1980	
16...	.0	22...	9.5
FEB		MAY	
07...	.0	19...	7.0
27...	.0	JUN	
MAR		30...	24.0
07...	4.0	JUL	
13...	8.0	14...	24.0
24...	9.0	28...	23.5
APR			
08...	15.0		

08249000 - CONEJOS RIVER NEAR LASAUSES, CO. (LAT 37 18 01 LONG 105 44 47)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1979		APR , 1980	
01...	22.0	21...	11.0
10...	8.0	23...	9.0
NOV		MAY	
04...	7.0	01...	7.0
DEC		12...	10.0
03...	1.0	JUN	
19...	2.0	02...	13.0
JAN , 1980		20...	14.0
02...	.0	JUL	
10...	.5	01...	16.5
21...	3.5	10...	19.0
FEB		AUG	
01...	1.0	12...	22.0
11...	.0	22...	18.5
21...	5.0	SEP	
MAR		01...	23.5
03...	2.0	10...	17.0
11...	4.0	19...	15.5
20...	10.0		
APR			
01...	3.0		
10...	8.0		

08250000 - CULEBRA CREEK AT SAN LUIS, CO. (LAT 37 11 02 LONG 105 25 31)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
MAR , 1980		JUN , 1980	
05...	9.0	10...	13.0
17...	10.0	25...	15.5
31...	2.5	JUL	
APR		22...	19.0
14...	15.0	AUG	
28...	17.5	06...	22.0
MAY		SEP	
13...	8.0	17...	19.0

08252000 - RIO GRANDE AT COLORADO-NEW MEXICO STATE LINE (LAT 37 00 03 LONG 105 43 19)

DATE	TEMPER-ATURE (DEG C)	DATE	TEMPER-ATURE (DEG C)
OCT , 1979		APR , 1980	
11...	14.0	09...	7.0
25...	9.0	22...	12.0
NOV		MAY	
06...	6.0	20...	14.0
20...	2.0	JUN	
DEC		30...	22.0
06...	1.0	JUL	
JAN , 1980		17...	21.0
16...	.0	28...	23.0
FEB		AUG	
07...	.0	13...	20.0
27...	2.0	SEP	
MAR		09...	15.0
13...	2.0	22...	13.0
25...	3.0		

ADAMS COUNTY

395727N104071701

SC 1-60-17DCC. Carl Sanden. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 87 ft (26.5 m). MP, 1.3 ft (0.40 m) above lsd. Altitude of land surface, 4,830.8 ft (1,472.43 m). Records available: 1942-80.

Highest water level, 25.09 ft (7.647 m) below lsd, Nov. 19, 1942; lowest water level, 47.28 ft (14.41 m) below lsd, Mar. 6, 1979.

Mar. 6, 1980 43.64 ft

395643N104183301

SC 1-62-22DCA. Charles B. Nordloh. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 82 ft (25.0 m). MP, 0.8 ft (0.24 m) below lsd. Altitude of land surface, 4,994 ft (1,522 m). Records available: 1946-80.

Highest water level, 44.21 ft (13.475 m) below lsd, Nov. 25, 1949; lowest water level, 61.9 ft (18.87 m) below lsd, Mar. 12, 1973.

Mar. 6, 1980 59.98 ft

ALAMOSA COUNTY

372154N105555401

NA36- 9-13AAA. U.S. Geological Survey. Jetted observation water-table well in basin-fill deposits. Diameter, 3 in (0.076 m). Depth, 10 ft (3.0 m). MP, 2.3 ft (0.70 m) above lsd. Altitude of land surface, 7,558.1 ft (2,303.71 m). Records available: 1949-64, 1966-75, 1980.

Highest water level, 0.07 ft (0.021 m) below lsd, May 5, 1968; lowest water level, 6.17 ft (1.881 m) below lsd, Jan. 6, 1964.

Jan. 17, 1980 2.00 ft

373409N106021501

NA39- 9-31CCC. U.S. Geological Survey. Jetted observation water-table well in basin-fill deposits. Diameter, 3 in (0.076 m). Depth, 10 ft (3.0 m). MP, 1.70 ft (0.518 m) above lsd. Altitude of land surface, 7,567.4 ft (2,306.54 m). Records available: 1948-64, 1966-75, 1977, 1980

Highest water level, 1.42 ft (0.433 m) below lsd, June 26, 1962; lowest water level, 5.78 ft (1.762 m) below lsd, Jan. 27, 1969.

Jan. 16, 1980 4.73 ft

BACA COUNTY

373058N102151500

SC29-43-15CCB. James Thompson. Drilled observation artesian well in Cheyenne Sandstone Member of Purgatoire Formation. Diameter, 1.25 in (0.032 m). Depth, 343 ft or 104.5 m (reported). MP, 1.40 ft (0.427 m) above lsd. Altitude of land surface, 3,913 ft (1,193 m). Records available: 1955-80.

Highest water level, 48.60 ft (14.813 m) below lsd, Jan. 16, 1975; lowest water level, 68.74 ft (20.95 m) below lsd, Feb. 2, 1978.

Jan. 8, 1980 64.49 ft

BENT COUNTY

380228N103105600

SC23-52-13DDC. B. F. Owens. Drilled stock water-table well in valley-fill deposits. Diameter, 6 in (0.15 m). Depth, 19 ft (5.8 m). MP, 2.0 ft (0.61 m) above lsd. Altitude of land surface, 3,895 ft (1,187 m). Records available: 1959-75, 1979-80.

Highest water level, 8.6 ft (2.62 m) below lsd, Dec. 4, 1962; lowest water level, 16.6 ft (5.060 m) below lsd, Nov. 13, 1964.

Mar. 11, 1980 14.96 ft

ELBERT COUNTY

391717N103475001

SC 9-57- 8ABB. J. C. Mattson. Drilled observation water-table well in alluvium. Diameter, 6 in (0.15 m). Depth, 28 ft (8.5 m). MP, 0.20 ft (0.061 m) above lsd. Altitude of land surface, 5,475 ft (1,669 m). Records available: 1945-80.

Highest water level, 5.00 ft (1.524 m) below lsd, July 2, 1947; lowest water level, 7.92 ft (2.414 m) below lsd, Mar. 2, 1977.

Mar. 11, 1980 7.16 ft

EL PASO COUNTY

390441N104184501

SC11-62-22ADC. Anthony Eurich. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 44 ft (13.4 m). MP, 0.80 ft (0.244 m) above lsd. Altitude of land surface, 6,364.8 ft (1,940.0 m). Records available: 1945-80.

Highest water level, 5.49 ft (1.673 m) below lsd, Aug. 9, 1947; lowest water level, 8.48 ft (2.585 m) below lsd, July 11, 1952.

Mar. 26, 1980 6.55 ft

HUERFANO COUNTY

373922N104501401

SC-27-67-36ACB. State of Colorado. Drilled stock water-table well in Trinidad Sandstone. Diameter, 7 in (0.178 m). Depth, 62 ft (18.9 m). MP, 2.2 ft (0.67 m) above lsd. Altitude of land surface, 6,282 ft (1,915 m). Records available: 1950-75, 1980.

Highest water level, 41.33 ft (12.95 m) below lsd, May 7, 1980; lowest water level, 48.8 ft (14.87 m) below lsd, Apr. 26, 1955.

May 7, 1980 4.133 ft

KIOWA COUNTY

383230N102274601

SC17-45-31ABA. U.S. Government. Bored observation water-table well in valley-fill deposits. Diameter, 1.25 in (0.032 m). Depth, 11 ft (3.35 m). MP, 1.5 ft (0.46 m) above lsd. Altitude of land surface, 3,954.4 ft (1,205.30 m). Records available: 1959-80.

Highest water level, 5.32 ft (1.625 m) below lsd, Mar. 19, 1979; lowest water level, 8.6 ft (2.62 m) below lsd, Nov. 10, 1960.

Mar. 11, 1980 5.37 ft

KIT CARSON COUNTY

392230N103052000

SC 8-51-10ABB2. Drilled irrigation water-table well in alluvium and Meade Formation. Diameter, 18 in (0.46 m). Depth, 74 ft (22.6 m). MP, 0.1 ft (0.03 m) above lsd. Altitude of land surface, 4,870 ft (1,484 m). Records available: 1951-80.

Highest water level, 30.4 ft (9.27 m) below lsd, Jan. 15, 1952; lowest water level, 40.64 ft (12.387 m) below lsd, Jan. 8, 1979.

Jan. 25, 1980 39.79 ft

391110N102030100

SC10-42-12DCD. U.S. Government. Drilled observation water-table well in Ogallala Formation. Diameter, 1.25 in (0.032 m). Depth, 273 ft (83.2 m). MP, 3.30 ft (1.006 m) above lsd. Altitude of land surface, 3,997.7 ft (1,218.50 m). Records available: 1955-80.

Highest water level, 101.67 ft (30.989 m) below lsd, Aug. 12, 1955; lowest water level, 128.59 ft (38.733 m) below lsd, Jan. 17, 1980.

Jan. 17, 1980 128.59 ft

LARIMER COUNTY

402426N105013001 SB 5-68-17AAB. George Peak. Drilled irrigation water-table well in alluvium. Diameter, 48 in (1.22 m). Depth, 24 ft (7.3 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 4,948 ft (1,508 m). Records available: 1941-80.

Highest water level, 5.43 ft (1.655 m) below lsd, Oct. 27, 1947; lowest water level, 14.45 ft (4.404 m) below lsd, Apr. 20, 1949.

Mar. 6, 1980 8.75 ft

403333N104585001 SB 7-68-23CBB1. W. A. Scott. Drilled observation water-table well in alluvium. Diameter, 48 in (1.22 m). Depth, 52 ft (15.8 m). MP, 2.70 ft (0.823 m) above lsd. Altitude of land surface, 4,902 ft (1,494 m). Records available: 1941-79.

Highest water level, 6.1 ft (1.86 m) below lsd. Nov. 6, 1957; lowest water level, 10.5 ft (3.20 m) below lsd, Mar. 15, 1975.

1980 No measurement.

404517N105014201 SB 9-68-17BAA. Harlan Seaworth. Drilled irrigation water-table well in alluvium. Diameter, 20 in (0.51 m). Depth, 92 ft (28.0 m). MP, 0.40 ft (0.122 m) above lsd. Altitude of land surface, 5,329 ft (1,624 m). Records available: 1939-79.

Highest water level, 29.02 ft (8.845 m) below lsd, Apr. 3, 1959; lowest water level, 64.45 ft (19.644 m) below lsd, Nov. 9, 1956.

1980 No measurement.

LINCOLN COUNTY

385724N103155601 SC13-53- 1DDC. U.S. Government. Bored observation water-table well in alluvium. Diameter, 1.25 in (0.032 m). Depth, 8 ft (2.4 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 4,720 ft (1,439 m). Records available: 1959-77, 1979-80.

Highest water level, 3.5 ft (1.07 m) below lsd. Apr. 4, 1960; lowest water level, 5.28 ft (1.609 m) below lsd, Mar. 2, 1977.

Mar. 11, 1980 4.81 ft

LOGAN COUNTY

404256N103062801 SB 9-51-31BBB. Frank Manuello. Drilled irrigation water-table well in alluvium. Diameter unknown. Depth, 106 ft (32.3 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 3,865 ft (1,179 m). Records available: 1947-80.

Highest water level, 2.89 ft (0.881 m) below lsd, Oct. 6, 1947; lowest water level, 7.16 ft (2.182 m) below lsd, Jan. 10, 1975.

Mar. 19, 1980 4.90 ft

405209N102481701 SB10-49- 2CBC. G. E. Henery. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 32 ft (9.8 m). MP, 1.50 ft (0.457 m) above lsd. Altitude of land surface, 3,711 ft (1,131 m). Records available: 1947-79.

Highest water level, 3.95 ft (1.204 m) below lsd. Apr. 7, 1958; lowest water level, 9.03 ft (2.752 m) below lsd, Nov. 6, 1964.

1980 No measurement.

MORGAN COUNTY

401452N103480200 SB 3-57- 6DCC. City of Fort Morgan. Dug and drilled observation water-table well in alluvium. Diameter, 12 in (0.30 m). Depth, 180 ft (54.9 m). MP, 5.0 ft (1.52 m) below lsd. Altitude of land surface, 4,325.6 ft (1,318.44 m). Records available: 1940-80.

Highest water level, 39.88 ft (12.155 m) below lsd, Jan. 20-21, 1955; lowest water level, 56.76 ft (17.300 m) below lsd, Sept. 5, 1965.

Mar. 18, 1980 51.74 ft

401424N103505200

SB 3-58-11BCC. Alex Stark. Drilled irrigation water-table well in alluvium. Diameter, 16 in (0.41 m). Depth, 145 ft (44.2 m). MP, 0.8 ft (0.24 m) above lsd. Altitude of land surface, 4,366.2 ft (1,330.82 m). Records available: 1939-65, 1967, 1970-79.

Highest water level, 51.85 ft (15.804 m) below lsd, Nov. 19, 1942; lowest water level, 69.87 ft (21.296 m) below lsd, Nov. 5, 1964.

1980 No measurement.

401214N104053401

SB 3-60-22CCC. B. A. Holden. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 120 ft (36.6 m). MP, 0.20 ft (0.061 m) above lsd. Altitude of land surface, 4,568.4 ft (1,392.45 m). Records available: 1936-80.

Highest water level, 49.44 ft (15.069 m) below lsd, Apr. 11, 1938; lowest water level, 103.83 ft (28.687 m) below lsd, Mar. 25, 1980.

Mar. 25, 1980 103.83 ft

401915N103321100

SB 4-55- 9DCC. Rudolph and Schooley. Drilled irrigation water-table well in alluvium. Diameter, 14 in (0.36 m). Depth, 88 ft (26.8 m). MP, 2.0 ft (0.61 m) above lsd. Altitude of land surface, 4,175.2 ft (1,272.60 m). Records available: 1930, 1932-79.

Highest water level, 14.75 ft (4.496 m) below lsd, Oct. 19, 1949; lowest water level, 25.76 ft (7.852 m) below lsd, Mar. 11, 1969.

1980 No measurement.

402113N103580300

SB 5-59-34CAD. G. Williams. Dug domestic and stock water-table well in alluvium. Diameter, 36 in (0.91 m). Depth, 20 ft (6.1 m). MP, 2.20 ft (0.671 m) above lsd. Altitude of land surface, 4,362 ft (1,330 m) above msl. Records available: 1947-80.

Highest water level, 7.16 ft (2.182 m) below lsd, Sept. 9, 1948; lowest water level, 16.72 ft (5.096 m) below lsd, Apr. 7, 1956.

Mar. 19, 1980 16.72 ft

OTERO COUNTY

380706N103534200

SC22-58-21DAA. C. Meyer. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 56 ft (17.1 m). MP, 1.90 ft (0.579 m) above lsd. Altitude of land surface, 4,282 ft (1,305 m). Records available: 1928-31, 1933-80.

Highest water level, 25.54 ft (7.785 m) below lsd, Mar. 28, 1955; lowest water level, 36.61 ft (11.159 m) below lsd, Mar. 6, 1979.

Mar. 10, 1980 33.40 ft

380334N103434700

SC23-57-12DAD. American Crystal Sugar Co. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 27 ft (8.2 m). MP, 2.00 ft (0.610 m) above lsd. Altitude of land surface, 4,186 ft (1,276 m). Records available: 1944-78, 1980.

Highest water level, 8.87 ft (2.704 m) below lsd, Dec. 4, 1946; lowest water level, 15.78 ft (4.810 m) below lsd, Nov. 27, 1956.

Mar. 12, 1980 15.18 ft

PHILLIPS COUNTY

403230N102071000

SB 7-43-35ABB. Harold Gerhardt. Drilled irrigation water-table well in Ogallala Formation. Diameter, 18 in (0.46 m). Depth, 200 ft (61.0 m). MP, 0.70 ft (0.213 m) above lsd. Altitude of land surface, 3,598.8 ft (1,096.91 m). Records available: 1950-80.

Highest water level, 37.27 ft (11.360 m) below lsd, Mar. 27, 1963; lowest water level, 59.80 ft (18.227 m) below lsd, Jan. 19, 1979.

Jan. 19, 1980 54.15 ft

PROWERS COUNTY

380532N102311600 SC22-45-31CBB. U.S. Geological Survey. Driven observation water-table well in alluvium. Diameter, 1.25 in (0.032 m). Depth, 11 ft (3.35 m). MP, 3.5 ft (1.07 m) above lsd. Altitude of land surface, 3,567 ft (1,087 m). Records available: 1950-80.

Highest water level, 0.10 ft (0.030 m) below lsd, Aug. 24, 1967; lowest water level, 6.00 ft (1.829 m) below lsd, May 3, 1965.

Mar. 12, 1980 4.72 ft

PUEBLO COUNTY

381340N104205601 SC21-62- 9CCC. Susie C. Potestio. Drilled irrigation water-table well in alluvium. Diameter, 15 in (0.38 m). Depth, 28 ft (8.5 m). MP, 1.1 ft (0.34 m) above lsd. Altitude of land surface, 4,567 ft (1,392 m). Records available: 1929, 1934-75, 1980.

Highest water level, 13.90 ft (4.237 m) below lsd, Nov. 16, 1965; lowest water level, 20.28 ft (6.181 m) below lsd, Nov. 11, 1964.

Mar. 12, 1980 19.25 ft

381443N104320701 SC21-64- 3DAC. Joseph Thomas. Drilled irrigation water-table well in alluvium. Diameter, 15 in (0.38 m). Depth, 35 ft (10.7 m). MP, 2.10 ft (0.640 m) above lsd. Altitude of land surface, 4,679 ft (1,426 m). Records available: 1934-75, 1979.

Highest water level, 12.20 ft (3.719 m) below lsd, Nov. 11, 1942; lowest water level, 27.50 ft (8.382 m) below lsd, Mar. 14, 1977.

1980 No measurement.

380817N104043400 SC22-60-13BBC. C. J. Sindig. Drilled irrigation water-table well in alluvium. Diameter, 4 ft (1.2 m). Depth, 39 ft (11.9 m). MP, 1.0 ft (0.30 m) above lsd. Altitude of land surface, 4,375 ft (1,334 m). Records available: 1952-80.

Highest water level, 28.21 ft (8.748 m) below lsd, Mar. 13, 1980; lowest water level, 36.16 ft (11.022 m) below lsd, Nov. 28, 1956.

Mar. 13, 1980 28.21 ft

SEDGWICK COUNTY

404741N102030500 SB10-42-32DDD. U.S. Geological Survey. Drilled observation water-table well in Ogallala Formation. Diameter, 1.25 in (0.032 m). Depth, 207 ft (63.1 m). MP, 2.80 ft (0.853 m) above lsd. Altitude of land surface, 3,609.2 ft (1,100.08 m). Records available: 1952-80.

Highest water level, 176.34 ft (53.748 m) below lsd, Jan. 16, 1969; lowest water level, 188.20 ft (57.345 m) below lsd, Jan. 30, 1980.

Jan. 30, 1980 188.20 ft.

405805N102235100 SB11-45- 5BBA. F. J. Hilderman. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 52 ft (15.8 m). MP, 0.50 ft (0.152 m) above lsd. Altitude of land surface, 3,540 ft (1,079 m). Records available: 1947-79.

Highest water level, 11.23 ft (3.423 m) below lsd, Oct. 7, 1949; lowest water level, 20.70 ft (6.309 m) below lsd, Jan. 6, 1975.

1980 No measurement.

405435N102364300 SB11-47-28BBB. James Jankovsky. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 52 ft (15.8 m). MP, 0.50 ft (0.152 m) above lsd. Altitude of land surface, 3,624 ft (1,105 m). Records available: 1948-79.

Highest water level, 2.51 ft (0.765 m) below lsd, June 24, 1948; lowest water level, 5.61 ft (1.710 m) below lsd, Oct. 17, 1954.

1980 No measurement.

WASHINGTON COUNTY

395706N103325901

SC 1-55-21BCD. A. Blake. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 41 ft (12.5 m). MP, 1.50 ft (0.457 m) above lsd. Altitude of land surface, 4,487.3 ft (1,367.73 m). Records available: 1947-67, 1970-80.

Hignest water level, 11.83 ft (3.606 m) below lsd. Dec. 9, 1947; lowest water level, 16.95 ft (5.166 m) below lsd. Oct. 20, 1960.

Mar. 12, 1980 13.62 ft

394038N102481800

SC 4-49-25ADC1. Cecil Williams. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 17 ft (5.2 m). MP, 0.20 ft (0.061 m) above lsd. Altitude of land surface, 4,350 ft (1,326 m). Records available: 1950-69, 1971-72, 1975-79.

Highest water level, 7.42 ft (2.262 m) below lsd, Aug. 6, 1951; lowest water level, 16.30 ft (4.968 m) below lsd, Jan. 4, 1979.

1980 No measurement.

393902N102561800

SC 5-50- 2AAB. Lloyd McIrwin. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 54 ft (16.5 m). MP, 2.00 ft (0.610 m) above lsd. Altitude of land surface, 4,514.6 ft (1,376.05 m). Records available: 1950-67, 1969-75.

Highest water level, 16.44 ft (5.011 m) below lsd. Nov. 8, 1962; lowest water level, 22.65 ft (6.904 m) below lsd. July 23, 1954.

1980 No measurement.

WELD COUNTY

400306N104154701

SB 1-62-13ADD. C. M. Roark. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 76 ft (23.2 m). MP, 3.00 ft (0.914 m) above lsd. Altitude of land surface, 4,824.1 ft (1,470.39 m). Records available: 1947-75.

Highest water level, 18.29 ft (5.575 m) below lsd. Oct. 16, 1952; lowest water level, 47.7 ft (14.54 m) below lsd. Mar. 23, 1972.

1980 No measurement.

400427N104244801

SB 1-63- 2CCC. D. Trupp. Drilled irrigation water-table well in alluvium. Diameter, 20 in (0.51 m). Depth, 96 ft (29.3 m). MP, 0.30 ft (0.091 m) above lsd. Altitude of land surface, 4,822 ft (1,470 m). Records available: 1944-56, 1958-80.

Highest water level, 51.70 ft (15.758 m) below lsd. May 1, 1950; lowest water level, 75.90 ft (23.134 m) below lsd. Nov. 13, 1959.

Mar. 18, 1980 65.95 ft

400125N104370001

SB 1-65-25CCD1. Fred Haffner, Sr. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 69 ft (21.0 m). MP, 0.60 ft (0.183 m) above lsd. Altitude of land surface, 5,044 ft (1,537 m). Records available: 1940-80.

Highest water level, 30.29 ft (9.232 m) below lsd. Apr. 12, 1950; lowest water level, 45.70 ft (13.929 m) below lsd. Mar. 2, 1979.

Mar. 14, 1980 44.48 ft

400129N104483800

SB 1-66-30ADA. G. J. Mancini. Dug irrigation water-table well in alluvium. Diameter, 8 ft (2.4 m). Depth, 31 ft (9.4 m). MP, 1.15 ft (0.351 m) above lsd. Altitude of land surface, 4,953 ft (1,510 m). Records available: 1929-75, 1978-80.

Highest water level, 10.29 ft (3.136 m) below lsd. Oct. 12, 1933; lowest water level, 20.83 ft (6.349 m) below lsd. Mar. 1, 1977.

Mar. 6, 1980 19.87 ft

401727N104133000

SB 4-61-28BBB. K. Mori. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 100 ft (30.5 m). MP, 0.80 ft (0.244 m) above lsd. Altitude of land surface, 4,482 ft (1,366 m). Records available: 1947-79.

Highest water level, 21.60 ft (6.584 m) below lsd, Oct. 9, 1947; lowest water level, 40.60 ft (12.375 m) below lsd, Mar. 1, 1976.

1980 No measurement.

401912N104313700

SB 4-64-10CDD. T. E. Dwyer. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 60 ft (18.3 m). MP, 0.60 ft (0.183 m) above lsd. Altitude of land surface, 4,635 ft (1,413 m). Records available: 1940-80.

Highest water level, 6.43 ft (1.960 m) below lsd, Nov. 9, 1949; lowest water level, 23.64 ft (7.205 m) below lsd, Nov. 13, 1956.

Mar. 18, 1980 11.98 ft

402753N104280901

SB 6-63-29BBB. H. L. Wells. Drilled irrigation water-table well in alluvium. Diameter, 4 ft (1.2 m). Depth, 37 ft (11.3 m). MP, 1.80 ft (0.549 m) above lsd. Altitude of land surface, 4,655 ft (1,419 m). Records available: 1932-79.

Highest water level, 7.19 ft (2.192 m) below lsd, Aug. 11, 1932; lowest water level, 22.85 ft (6.965 m) below lsd, Nov. 12, 1956.

1980 No measurement.

402930N104414301

SB 6-65-17BBC. H. W. Farr. Drilled irrigation water-table well in alluvium. Diameter, 18 in (0.46 m). Depth, 65 ft (19.8 m). MP, 0.80 ft (0.244 m) above lsd. Altitude of land surface, 4,761.9 ft (1,451.43 m). Records available: 1932-75.

Highest water level, 21.22 ft (6.468 m) below lsd, Aug. 1, 1932; lowest water level, 41.36 ft (12.607 m) below lsd, Nov. 12, 1956.

1980 No measurement.

403032N104510201

SB 6-67-12BBB. Fred Felte. Drilled irrigation water-table well in alluvium. Diameter, 24 in (0.61 m). Depth, 22 ft (6.7 m). MP, 0.50 ft (0.152 m) above lsd. Altitude of land surface, 4,859 ft (1,481 m). Records available: 1941-75.

Highest water level, 5.45 ft (1.661 m) below lsd, Mar. 21, 1962; lowest water level, 13.30 ft (4.054 m) below lsd, Nov. 12, 1956.

1980 No measurement.

403454N104403701

SB 7-65-16BBB. K. Akahoshi. Drilled irrigation watre-table well in alluvium. Diameter, 4 ft (1.2 m). Depth, 18 ft (5.5 m). MP, 2.70 ft (0.823 m) above lsd. Altitude of land surface, 4,875.1 ft (1,485.93 m). Records available: 1942-48, 1950-79.

Highest water level, 4.09 ft (1.247 m) below lsd, Oct. 28, 1959; lowest water level, 7.42 ft (2.262 m) below lsd, Apr. 29, 1946.

1980 No measurement.

403914N104451801

SB 8-66-22AAA. Troy Jones. Dug irrigation water-table well in alluvium. Diameter, 12 ft (3.6 m). Depth, 31 ft (9.4 m). MP, 2.1 ft (0.64 m) above lsd. Altitude of land surface, 5,073.7 ft (1,546.46 m). Records available: 1929-80.

Highest water level, 16.20 ft (4.938 m) below lsd, Jan. 8, 1947; lowest water level, 22.68 ft (6.913 m) below lsd, Nov. 22, 1954.

Mar. 13, 1980 21.99 ft

YUMA COUNTY

401105N102061101

SB 3-42-31BDD. U.S. Geological Survey. Drilled observation water-table well in Ogallala Formation. Diameter, 1.25 in (0.032 m). Depth, 92 ft (28.0 m). MP, 0.5 ft (0.15 m) above lsd. Altitude of land surface, 3,615.8 ft (1,102.10 m). Records available: 1952-80.

Highest water level, 21.25 ft (6.477 m) below lsd, Aug. 14, 1952; lowest water level, 47.82 ft (14.575 m) below lsd, Jan. 9, 1979.

Jan. 2[illegible], 1980 47.82 ft

401410N102415000

SB 3-48-12CCC. C. Pagel. Drilled stock water-table well in Ogallala Formation. Diameter, 4 in (0.09 m). Depth, 184 ft (56.1 m). MP, 0.1 ft (0.030 m) above lsd. Altitude of land surface, 4,068.1 ft (1,239.96 m). Records available: 1956-78.

Highest water level, 171.4 ft (52.24 m) below lsd, Nov. 21, 1966; lowest water level, 183.92 ft (56.058 m) below lsd, Jan. 15, 1977.

1980 No measurement

INDEX

Page

- Adams County, ground-water levels.......... 525
- Alamosa County, ground-water levels.......... 525
- Alamosa Creek above Terrace Reservoir.......... 428,521
- Alva B. Adams tunnel at east portal, near Estes Park.......... 455,457
- Anaconda Reservoir near Villa Grove.......... 422-423
- Analysis of samples collected at miscellaneous sites.......... 466-470
- Apishapa River, at Aguilar, gaging-station record.......... 354
  - water-quality record.......... 355-356
  - near Fowler.......... 357,510
- Arkansas River, above Pueblo.......... 270
  - at Buena Vista.......... 241,505
  - at Canon City.......... 248
  - at Catlin Dam, near Fowler.......... 358
  - at Granite.......... 238
  - at La Junta.......... 361
  - at Lamar.......... 395,511
  - at Las Animas.......... 363,510
  - at Parkdale.......... 246,506
  - at Portland, gaging-station record.......... 250
    - water-quality record.......... 251-256
  - at Salida.......... 244,517
  - below John Martin Reservoir, gaging-station record.......... 391
    - water-quality record.......... 392-394
  - near Avondale, gaging-station record.......... 342
    - water-quality record.......... 343-348,510
  - near Coolidge, KS, gaging-station record.......... 398
    - water-quality record.......... 399-404,512
  - near Leadville.......... 228,505
  - near Malta, gaging-station record.......... 235
    - water-quality record.......... 236
  - near Nathrop.......... 243,505
  - near Nepesta.......... 352-353,518
  - near Wellsville.......... 245,518
- Aurora Homestake pipeline near Lake George, diversion by.......... 239

- Baca County, ground-water levels.......... 525
- Bear Creek, at Morrison, gaging-station record.......... 108
  - water-quality record.......... 109
  - below Bear Creek Lake at Lakewood.......... 110
  - at mouth, at Sheridan.......... 111,514
- Bear Creek Lake at Lakewood.......... 468-469
- Beaver Creek (Arkansas River basin) near Portland.......... 257,506
- Bent County, ground-water levels.......... 525
- Berthoud Pass ditch at Berthoud Pass, diversion by.......... 455,457
- Big Sandy Creek near Lamar.......... 396,511
- Big Thompson River, above Dille Tunnel, near Drake, water-quality record.......... 153
  - above Loveland, water-quality record.......... 159-162
  - at Estes Park.......... 148,516
  - at Loveland, gaging-station record.......... 163-164
    - water-quality record.......... 165-168
  - at mouth, near La Salle, gaging-station record.. 177
    - water-quality record.......... 178-179
  - at mouth of canyon, near Drake.......... 158,517
  - below Loveland, water-quality record.......... 169-171
  - near Estes Park.......... 152,517
- Bijou Creek near Fort Morgan.......... 214
- Bob Creek ditch near Glendevey, diversion by.......... 182
- Bobolink Reservoir near Conejos.......... 432
- Bonny Reservoir near Hale.......... 226
- Boreas Pass ditch at Boreas Pass, diversion by.......... 455,457

Page

- Boulder Creek at mouth near Longmont, gaging-station record.......... 142
  - water-quality record.......... 143-144
- Boulder Creek (Platte River basin) near Orodell... 136,516
- Buffalo Creek near Hebron, gaging-station record.......... 39
  - water-quality record.......... 40-41
- Busk-Ivanhoe tunnel at east portal, near Malta, diversion by.......... 456,457

- Cache la Poudre River, above Box Elder Creek near Timnath, gaging-station record.......... 199
  - water-quality record.......... 200-203
  - at Fort Collins, gaging-station record.......... 191
    - water-quality record.......... 192-194
  - at mouth of canyon, near Fort Collins, gaging-station record.......... 186
    - water-quality record.......... 187-188
  - at Shields Street, water-quality record.......... 189-190
  - below Fort Collins, water-quality record.......... 195-198
  - near Fort Collins, water-quality record.......... 183-185
  - near Greeley, gaging-station record.......... 204
    - water-quality record.......... 205-206
- Cameron Pass ditch at Cameron Pass, diversion by.. 182
- Canadian River near Brownlee, gaging-station record.......... 62
  - water-quality record.......... 63-67
- Canadian River near Lindland, gaging-station record.......... 52
  - water-quality record.......... 53-58
- Carnero Creek near La Garita.......... 426,526
- Carpios Canyon near Jansen, gaging-station record. 380
  - water-quality record.......... 381
- Carter Lake near Berthoud, contents of.......... 173
  - water-quality record.......... 174-176
- Charles H. Boustead tunnel near Leadville, diversion by.......... 456,457
- Chatfield Lake near Littleton contents of.......... 97
  - water-quality record.......... 98-99
- Cheesman Lake near Deckers, contents of.......... 224
- Cherry Creek, above Cherry Creek Lake, water-quality record.......... 470
  - at Denver.......... 117
  - below Cherry Creek Lake.......... 116
  - near Franktown.......... 112,504
- Cherry Creek Lake near Denver, contents of.......... 113
  - water-quality record.......... 114-115
- Clear Creek (Arkansas River basin) above Clear Creek Reservoir.......... 240,517
- Clear Creek (Platte River basin), at Golden.......... 121,515
  - at mouth, near Derby.......... 122,515
  - near Lawson.......... 120,515
- Coal Creek near Plainview, gaging-station record.. 139
  - water-quality record.......... 140-141
- Columbine ditch at Deadman Hill, diversion by.......... 182
- Columbine ditch near Fremont Pass, diversion by... 455,457
- Conejos River, below Platoro Reservoir.......... 439,522
  - near Lasauses.......... 444,524
  - near Mogote.......... 440,523
- Cottonwood Creek below Hot Springs, near Buena Vista.......... 242,505
- Crest-stage partial-record stations.......... 458-460
- Crooked Arroyo near Swink.......... 360,510
- Cucharas River at Boyd Ranch, near La Veta.......... 350
- Culebra Creek at San Luis.......... 445,524

- Don La Font ditches 1 and 2 at Piedra Pass, diversion by.......... 456,457
- Discharge measurements at selected miscellaneous sites.......... 461

Page

Elbert County, ground-water levels................ 526
Elevenmile Canyon Reservoir near Lake George, contents of................ 224
El Paso County, ground-water levels................ 526
Eureka ditch near Flattop Mountain, diversion by.. 455,457
Ewing ditch at Tennessee Pass, diversion by....... 455,457

Fountain Creek, above Little Fountain Creek, below Fountain, water-quality record............. 315-320
  at Colorado Springs, gaging-station record...... 300,508
    water-quality record................ 301-306
  at Pueblo................ 340,509
  at Security................ 312,508
  below Circle Drive below Colorado Springs, water-quality record................ 311
  below Janitell Road, water-quality record....... 307-310
  below Widefield, water-quality record........... 313
  near Colorado Springs, gaging-station record.... 271,507
    water-quality record................ 272-278
  near Pinon, gaging-station record............... 333
    water-quality record................ 334-339
Fourmile Creek, near Canon City................ 249,506
  near Fairplay................ 76,503
Frontier ditch near Coolidge, KS................ 397

Goose Creek (Platte River basin) above Cheesman Lake................ 89,513
Goose Creek (Rio Grande basin) at Wagonwheel Gap.. 409,518
Grand River ditch at La Poudre Pass, diversion by................ 455,457
Grange Hall Creek at Northglenn................ 123
Grape Creek near Westcliffe................ 247
Grizzly Creek, near Hebron, gaging-station record. 42
  water-quality record................ 43-44
  near Spicer, water-quality record................ 37-38
Ground-water levels................ 525-532

Halfmoon Creek near Malta, gaging-station record.. 230
    water-quality record................ 231-234
Harold D. Roberts tunnel at Grant, diversion by... 455,457
Homestake tunnel near Leadville, diversion by..... 456,457
Hoosier Pass tunnel at Hoosier Pass, diversion by. 455,457
Horse Creek near Las Animas................ 362
Horsetooth Reservoir near Fort Collins, contents of................ 154
    water-quality record................ 155-157
Huerfano County, ground-water wells................ 526
Huerfano River at Manzanares Crossing, near Redwing................ 349
  near Boone................ 351

Jefferson Creek near Jefferson................ 81,503
Jimmy Camp Creek at Fountain................ 314,508
Joe Wright Creek, above Joe Wright Reservoir...... 180
  below Joe Wright Reservoir................ 181,505
John Martin Reservoir at Caddoa................ 390

Kerber Creek at Ashley Ranch, near Villa Grove.... 419,520
Kettle Creek near Black Forest................ 285,507
Kiowa County, ground-water wells................ 526
Kit Carson County, ground-water levels............ 526

La Garita Creek near La Garita................ 427,521
La Jara Creek at Gallegos Ranch, near Capulin..... 429,521
Lake Creek above Twin Lakes Reservoir............. 237,517
Laramie River near Glendevey................ 72,502
Laramie-Poudre tunnel near Chambers Lake, diversion by................ 182
Larimer County, ground-water levels................ 527
Larkspur ditch at Marshall Pass, diversion by..... 456,457
Lefthand Creek near Boulder, gaging-station record 129
  water-quality record................ 130-131
Lincoln County, ground-water wells................ 527
Little Fountain Creek, above Keaton Reservoir, near Fort Carson, gaging-station record..... 321-322
  water-quality record................ 323
  near Fort Carson................ 325-326
  near Fountain................ 327
Little Grizzly Creek, above Coalmont..............
  water-quality record................ 45-46
  above Hebron, gaging-station record............. 47
    water-quality record................ 48-49
Little Turkey Creek near Fountain................ 260-262
Logan County, ground-water levels................ 527

Page

Long Canyon Creek near Madrid................ 379,511
Los Pinos River (Rio Grande basin) near Ortiz..... 442,523
Luning Arroyo near Model................ 385

Michigan Creek above Jefferson................ 80,503
Michigan ditch at Cameron Pass, diversion by...... 182
Michigan River, near Cameron Pass................ 50,502
  North Fork, near Gould................ 51,502
Middle Boulder Creek at Nederland................ 135,516
Middle Fork Purgatoire River at Stonewall, gaging-station record................ 364
  water-quality record................ 365-367
Middle Fork South Platte River, above Fairplay.... 73,502
  near Hartsel................ 74,502
Moffatt water tunnel at east portal, diversion by. 455-457
Molino Canyon near Weston, gaging-station record.. 368
  water-quality record................ 369-371
Monument Creek, at Bijou Street at Colorado Springs, water-quality record................ 299
  at Cache la Poudre Street at Colorado Springs, water-quality record................ 294-298
  at Palmer Lake, gaging-station record........... 279,507
    water-quality record................ 280-283
  at Pikeview, gaging-station record.............. 286
    water-quality record................ 287-292
Morgan County, ground-water levels................ 527-528
Mulligan Canyon near Boncarbo................ 378

Noland Gulch Tributary Reservoir Inflow near Villa Grove................ 420
North Clear Creek below Continental Reservoir..... 406,518
North Crestone Creek near Crestone................ 425,520
North Fork Michigan River near Gould.............. 51
North Fork Republican River at Colorado-Nebraska State line................ 225
North Fork South Platte River, below Geneva Creek, at Grant................ 91,514
  at South Platte................ 92,514
North Platte River near Northgate, gaging-station record................ 68
  water-quality record................ 69-71

Olympus Tunnel at Lake Estes, water-quality record................ 149-151
Otero County, ground-water levels................ 528

Phillips County, ground-water levels.............. 528
Pine River-Weminuche Pass ditch at Weminuche Pass, diversion by................ 456,457
Pinos Creek near Del Norte................ 412,519
Platoro Reservoir at Platoro................ 438
Plum Creek near Louviers................ 96,504
Previously unpublished analyses of samples collected at miscellaneous sites................ 471-496
Prowers County, ground-water levels............... 529
Pueblo County, ground-water levels................ 529
Pueblo Reservoir near Pueblo................ 269
Purgatoire River, at Madrid, gaging-station record................ 374
  water-quality record................ 375-377
  at Ninemile Dam, near Higbee................ 388
  at Trinidad................ 384
  below Trinidad Lake................ 383
  near Las Animas................ 389,511
  near Thatcher................ 387

Republican River, South Fork, near Hale........... 227,505
Reservoirs in South Platte River basin............ 224
Revised 1979 water-year water-quality data........ 497-501
Rio Grande, above mouth of Trinchera Creek, near Lasauses................ 433,521
  at Alamosa................ 414,519
  at Colorado-New Mexico State line................ 454,524
  at Thirtymile Bridge, near Creede................ 405
  at Wagonwheel Gap................ 408,512
  near Del Norte................ 411,519
  near Lobatos, gaging-station record............. 446
    water-quality record................ 447-453
  near Monte Vista................ 413,519
  South Fork, at South Fork................ 410,518
Rock Creek, above Fort Carson Reservation......... 328
  near Fort Carson, gaging-station record......... 329
    water-quality record................ 330-331
  near Fountain................ 332

Page

- Saguache Creek near Saguache........................ 421,520
- St. Charles River at Vineland........................ 341,509
- St. Vrain Creek, at Lyons, gaging-station record.. 126
  - water-quality record........................ 127-128
  - at mouth, near Platteville, gaging-station record........................ 145
    - water-quality record........................ 146-147
  - below Longmont, gaging-station record........... 132
    - water-quality record........................ 133-134
- San Antonio River, at mouth, near Manassa......... 443,524
  - at Ortiz........................ 441,523
- Sangre de Cristo Creek near Fort Garland.......... 435,522
- San Luis Creek above Villa Grove.................. 417-418
  - near Poncha Pass........................ 415-416
- Sarcillo Canyon near Segundo, gaging-station record........................ 372
  - water-quality record........................ 373
- Sedgwick County, ground-water levels.............. 529
- Skyline ditch at Chambers Lake, diversion by........................ 182
- South Boulder Creek, at Pinecliff................. 137,504
  - near Eldorado Springs........................ 138,516
- South Fork Republican River near Hale............. 227,505
- South Fork Rio Grande at South Fork............... 410,518
- South Fork South Platte River above Fairplay...... 75,503
- South Platte River, above Elevenmile Canyon Reservoir, near Hartsel........................ 77,513
  - at Balzac........................ 215,517
  - at Denver........................ 118,515
  - at 50th Avenue at Denver........................ 119
  - at Henderson........................ 124,516
  - at Julesburg, gaging-station record............. 216
    - water-quality record........................ 217,223
  - at Littleton, gaging-station record............. 100
    - water-quality record........................ 101-107
  - at Masters........................ 210
  - at South Platte........................ 93,514
  - at Waterton, gaging-station record.............. 94
    - water-quality record........................ 95
  - below Chatfield Lake........................ 466
  - below Cheesman Lake........................ 90,513
  - near Lake George........................ 78,513
  - near Kersey, gaging-station record.............. 207
    - water-quality record........................ 208-209
  - near Weldona, gaging-station record............. 211
    - water-quality record........................ 212-213
  - North Fork, at South Platte........................ 95,514
    - below Geneva Creek, at Grant.................. 94,514
  - South Fork, above Fairplay........................ 75,503
- South St. Vrain Creek above Lyons................. 125,504
- Specific conductance and temperature data at selected gaging stations................. 502-512
- Streamflow, temperature, specific-conductance measurements in South Park, Park County..... 462-465

Page

- Tabor ditch at Spring Creek Pass, diversion by.... 456,457
- Tarbell ditch near Cochetopa Pass, diversion by... 456,457
- Tarryall Creek at upper station near Como......... 79,503
- Tarryall Creek near Jefferson, gaging-station record........................ 82-83
  - water-quality record........................ 84-88
- Temperature data at selected sites................ 513-524
- Templeton Gap Floodway at Colorado Springs........ 293,508
- Timpas Creek at mouth, near Swink................. 359,510
- Transbasin diversions from North Platte River basin to Cache la Poudre River basin in Colorado........................ 182
- Transmountain diversions from Arkansas River basin to South Platte River basin in Colorado..... 239
- Transmountain diversions from Colorado River basin in Colorado........................ 455,457
- Treasure Pass diversion ditch at Wolf Creek Pass, diversion by........................ 456,457
- Trinchera Creek, above Turners Ranch, near Fort Garland........................ 434,522
  - below Smith Reservoir, near Blanca.............. 437,522
- Trinidad Lake near Trinidad........................ 382
- Turkey Creek, above Teller Reservoir, near Stone City, gaging-station record................. 263,506
  - water-quality record........................ 264
  - near Fountain........................ 258-259
  - near Morrison (Platte River basin)............. 467
  - near Stone City........................ 268
- Turkey Reservoir Inflow near Conejos.............. 431
- Turquoise Lake near Leadville...................... 229
- Twin Lakes tunnel at east portal, near Twin Lakes, diversion by........................ 456,457

- Ute Creek near Fort Garland........................ 436,522

- Van Bremer Arroyo near Model........................ 386
- Vidler tunnel, diversion by........................ 455,457

- Washington County, ground-water levels............ 530
- Weld County, ground-water levels.................. 530-531
- Weminuche Pass ditch at Weminuche Pass, diversion by........................ 456,457
- West Monument Creek at U.S. Air Force Academy..... 284,507
- Williams Creek-Squaw Pass ditch, diversion by..... 456,457
- Willow Creek (tributary to Rio Grande) at Creede.. 407,512
- Williams Draw near Walden, gaging-station record.. 59
  - water-quality record........................ 60-61
- Wilson supply ditch near Eaton Reservoir, diversion by........................ 182
- Womack Ditch near Fort Carson..................... 324,509
- Wurtz ditch near Tennessee Pass, diversion by..... 456,457

- Yellow Warbler Reservoir Inflow near Conejos...... 430
- Yuma County, ground-water levels.................. 531-532

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